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THESIS

A DESCRIPTIVE ANALYSIS OF FIRST TERM

ATTRITION FROM U.S. NAVAL SHIPS

by

Carl Glynn Carlson
September 1981

Thesis Advisor: R. S. Elster

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This thesis was conducted to analyze certain factors effecting first-term attrition from U.S. Naval ships. The Survival Tracking File (STF) was used as the primary data source, and from it files were constructed that permitted three areas of study. First, the overall cohort of a year's worth of first term enlistees was examined. The survival curve for the cohort was generated and individual monthly cohorts were examined for

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A Descriptive Analysis of First Term Attrition from U.S. Naval Ships

by

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Lieutenant, United States Navy
B.S., U.S. Naval Academy, 1975

Submitted in partial fulfillment of the
requirements for the degree of

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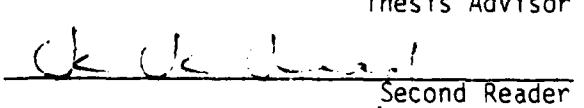
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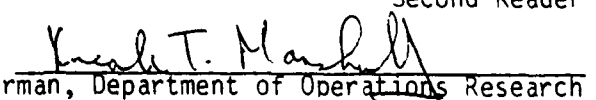
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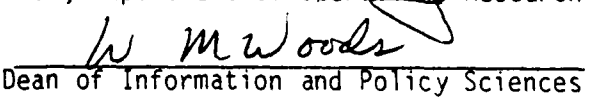
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ABSTRACT

This thesis was conducted to analyze certain factors effecting first-term attrition from U.S. Naval ships. The Survival Tracking File (STF) was used as the primary data source, and from it files were constructed that permitted three areas of study. First, the overall cohort of a year's worth of first term enlistees was examined. The survival curve for the cohort was generated and individual monthly cohorts were examined for attrition patterns. Secondly, overall attrition percentages were calculated for individual ships and for classes of ships and these attrition percentages were then examined for differences using statistical techniques. An ANOVA model using transformed data proved accurate in explaining attrition variance. Lastly, a comparison between attrition per month and underway hours per month was made for classes of ships and for individual ships of three specific classes. A rough relationship was observed, for certain classes of ships, between peaks of high underway hours and peaks of attrition. In looking at individual aircraft carriers, the attrition percentage seemed to be inversely proportional to underway hours per month. Several of these findings warrant further investigation so that the Navy may more fully understand it attrition problem and thereby take steps to alleviate it.

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I. INTRODUCTION

A. PROBLEM

One problem in the Navy is that approximately 33 percent of Non-Prior Service (NPS) males recruited into the Naval Service in 1973 did not make it through their first enlistment [Ref. 1]. This was part of a spiraling trend in which Navy attrition rates for first-term non-prior service male recruits increased from 30 percent in 1971 to over 40 percent in 1977 [Ref. 2]. When one stops to consider that the cost of recruiting just one of the 86,000 men recruited in 1977 was between $1,700.00 and $2,220.00 [Ref. 3], the loss of 33 percent of these men resulted in the waste of over 55 million dollars in recruiting costs alone. When the costs of training, pay and allowances, transportation, dependent benefits, medical services, etc., are added to the cost of recruiting, the monetary cost to the Navy, when a man fails to complete his enlistment term, is astronomical. A high attrition rate is damaging to the Navy in other ways also.

The Navy is critically short of manpower, especially for certain seagoing billets. It cannot hope to alleviate this shortage when it loses a third of the people it recruits. This shortage of manpower is not a problem that shows promise of an early solution. Despite a downward trend in planned manning levels, recruiters have been pressed to meet accession goals [Ref. 4, 5]. In addition, the pool of recruitable personnel is projected to decrease from 15 to 20 percent during the 1980's. In contrast, an increase in Naval strength and missions is assured with

the new administration's commitment to improving the United States' defense posture. The very real possibility of a 600-ship navy brings with it a staggering manpower requirement. Where the Navy will be able to get this manpower remains to be answered, but lessening the problem of attrition is one avenue. Reducing attrition increases the supply of manpower that is already trained and initiated into the Navy.

Recent attrition studies indicate that the first term attrition rate may be stabilizing at somewhere between 26 and 30 percent [Ref. 4]. The Navy, however, is going to have difficulty competing for eligible recruits to begin with [Ref, 6], and can hardly afford to lose over one quarter of those it does manage to recruit.

B. BACKGROUND

The problem of attrition has been recognized in the upper levels of management in the Navy and Defense. Many varied and innovative methods have been developed to attempt to alleviate this problem.

Screening of new recruits has been occurring for as long as the Navy has been operating and entails attempting to predict and screen out those individuals who have an unacceptably high probability of attrition during a first enlistment. Some of the screening methods that have been used are described in the following paragraphs.

In 1973, the Odds for Effectiveness - 1 (OFE-1) tables were placed in use in an attempt to use four predictor variables as indicators of attrition potential. The four predictor variables were: (1) an aptitude test score, the Armed Forces Qualification Test (AFQT), (2) years of education completed, (3) number of expulsions or suspensions from school, and (4) number of arrests [Ref. 7]. Recruiters found OFE-1 difficult to

use because of the increasing problem of obtaining arrest information due to the privacy act. The Naval Personnel Research and Development Center formulated a revised OFE table, OFE-2, which did not include the number of arrests as a predictor variable. OFE-2 was formally implemented in October 1975 [Ref. 8]. A new screening table involving different predictor variables was developed by Robert F. Lockman of the Center for Naval Analysis (CNA) in 1976. The following predictor variables were used in Lockman's model: (1) *race--majority and minority*, (2) mental group determined using the AFQT, (3) age at entry, (4) dependent status, and (5) years of education [Ref. 9]. Other preservice predictor variables were examined by Lockman and found not to be statistically significant in predicting attrition and hence were left out of his SCREEN (Success Chances for Recruits Entering the Navy) table.

Other studies have begun to investigate early-service variables and to evaluate their effect on attrition. J. S. Thomason of CNA looked at the effects of recruit training camp and first duty station assignment as well as the preservice characteristics investigated by Lockman [Ref. 1]. In addition, Smith and Kendall (1980) looked at A-School[1] training and early service characteristics in their study of a voluntary out program.[2] These studies showed that early-service or post-recruitment variables such as "boot" camp location and first duty station assignment had a significant effect on first term attrition. Both Smith and Kendall

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[1]A-schools are Navy schools designed to give rudimentary training to new personnel in specific technical and skill-oriented Navy ratings.

[2]The Voluntary Out Program II (Vol. Out II) was an experiment to determine the effects on performance and attrition of allowing recruits to leave the Naval Service upon request, subject to certain requirements.

and Butcher (1980) noted lower first term attrition for those recruits assigned to sea duty versus those assigned to shore duty.

Other initiatives have also been taken to attempt to reduce first term attrition. Among them are raised discharge standards to make administrative discharges more difficult [Ref. 5], and programs like the Behavioral Skills Training Program (BEST) [Ref. 10]. At the Navy's Recruit Training Centers (RTCs), Special Training Divisions (STDs) have been in place for some time. In addition to units that are designed to offer remedial training to recruits deficient in academic, military, or physical training, or to hold recruits with medical problems or awaiting reassignment, the STD has another purpose. Through the Positive Motivation Unit (PMU), using individual counseling, training, evaluation, and processing, the Navy attempts to motivate recruits toward a successful enlistment term. It can be concluded that the Navy is endeavoring to reduce attrition in basic training [Ref. 11].

C. PURPOSE

A great deal of effort is and has been expended on determining the causes of attrition and in developing methods for reducing it. The majority of this research has concentrated on traditional individual and demographic data and on service versus civilian pay opportunities. Only recently has effort been expended in the areas of post recruitment organizational factors [Ref. 4, 1, 12], and on dynamic factors such as working conditions, organizational experiences and supervisory practices [Ref. 13]. To understand and ultimately reduce attrition, one must first discover what factors affect it and where it occurs. It is the purpose of this thesis to look at some of factors which might affect attrition

and to determine if, in fact, there is room for further study using these factors.

Considerable informal debate occured concerning the effect on attrition and retention of the following factors: sea duty, ship class, individual (intra class) ship differences, ship deployment schedules, sea/shore rotation, commanding officers, command climate (leadership), and individual ship retention efforts. Most people agree that these factors affect attrition, but no effort has apparently been made to determine how or if they really do impact attrition, and if they do impact attrition, to what extent.

This thesis will examine a few of these factors in an effort to determine if these factors have any effect on attrition. First, it will examine the Survival Tracking File (STF) cohort which is used as the primary data input for this study. The STS cohort is described in the next chapter. This examination will yield an overall view of how the cohort behaves. The thesis will examine next the overall, first term attrition figures for various ships of the same class for a specific period, and will also examine attrition rates for different classes of ships over the same period in an attempt to determine if class of ship, or hull number within a class, have an impact on attrition. Finally, an attempt will be made to compare attrition histories per month for selected ships and ship classes over time, to underway hours for the same ships and classes over the same period. This will be a very rough attempt to look at the factor of percent of underway time and its relationship to attrition.

II. DATA

A. SHIP DATA BANK

A Ship Data Bank was prepared by LCDR D. Gardner at the Naval Postgraduate School in 1980. He started with a Unit Identification Code (UIC) tape supplied by NMPC-47 (Navy Military Personnel Command, Code 47). The UIC tape contained the UIC, hull number, name, homeport, and type activity code (TAC) for every activity in the Navy, both ships and shore stations. LCDR Gardner then produced punch cards containing the data from the tape for each ship in the fleet and added additional data pertaining to the ship type, class, sub-class, size (based on personnel), age (based on commissioning date), engineering plant, nuclear capable status, homeport location, and active or reserve status [Ref. 4]. A description of the data found in the SHIP DATA BANK FILE is found in Appendix B.

B. ENLISTED SURVIVAL TRACKING FILE

The Enlisted Survival Tracking file (STF) produced by the Naval Personnel Research and Development Center (NPRDC) was used as the basic data cohort for this research. The portion of the STF accessed for this study was received from NMPC-164 (Mr. Kenneth Gay). This cohort was defined by the following characteristics:

1. First term Navy enlistees.
2. Term of enlistment from three to six years.

3. Active duty start date from the beginning of the fourth quarter of fiscal year 1977 (1 July 1977) through the end of the third quarter of fiscal year 1978 (30 June 1978).
4. STF was updated through the end of the first quarter of fiscal year 1981 (30 December 1980).

Development of the STF was initiated by the Bureau of Naval Personnel in 1975. In 1977, NPRDC and Pers 35-b (now NMPC-164), collaborated to complete development of the data base. The STF consists of two separate collections of records. Only the first, the longitudinal STF (STF-L), was utilized for this research effort. It consists of a 120-character field length record which represents the status of each individual at quarterly intervals. The data utilized in the construction of the file are derived from the end-of-quarter Enlisted Master Record (EMR) files and the quarterly audit trail file, both of which are routinely prepared by NMPC-165. The STF-L file contains records commencing with the fourth quarter of fiscal year 1977, and contains a complete longitudinal description for those personnel who enlisted in that calendar quarter or later. For individuals enlisting prior to that time, data are available only from that date (quarter four, FY 77) forward. A completely new record is generated for a person who has a status change during any quarter on one or more variables. An individual could conceivably have a record for each calendar quarter of service. If no change occurs in a quarter, the quarter count variable is incremented indicating the number of calendar quarters the record has remained unchanged. A complete listing of the STF-L data elements is located in Appendix A [Ref. 14].

C. FLEET STEAMING HOURS REPORT DATA

Each month, all U.S. Navy fleet units are required to submit a Fleet Steaming Hours message report to the Navy Maintenance Support Office. This report contains, among other thing, the number of hours the ship has spent steaming underway. This information was used to develop an underway profile for each ship of interest for the period under study. A complete lising of the information available on this tape is contained in Appendix C. The period covered on this tape is four years from January 1977 through December 1980 and contains the information described in Appendic C for all U.S. Naval ships, both active and reserve, which were commissioned during this time. This data tape was obtained from the Commanding Officer, Naval Material Support Office, P.O. Box 2010, Attn: Mr. Larry Giese (Code 022), Mechanicsburg, PA 17055. Updates of this tape can be obtained by contacting Mr. Giese.

III. METHODOLOGY AND DATA MANIPULATION

A. SHIP CLASS UNIT IDENTIFICATION CODE FILE

For this paper, a Ship Class Unit Identification Code File was developed from the Ship Data Bank File prepared by LCDR Gardner for his thesis at the Naval Postgraduate School. Beginning with the Ship Data Bank File (see Appendix B), the file was edited to group all ships by class. The ships were then sorted by class, subclass, hull number, and Unit Identification Code (UIC) and all reserve ships were included. This resulted in a total of 554 U.S. Naval ships broken down into 39 classes as per Appendix D. This file includes both blue and gold ballistic missile (nuclear) submarine (SSBN) crews as separate ship UIC's and some ships that have since been decommissioned. It includes both active and reserve commissioned ships. The ships were then sequentially numbered from 100 to 654 to aid in Statistical Analysis System (SAS) use later. A complete listing of the Ship Class Unit Identification Code File can be found in Appendix E.

B. SURVIVAL TRACKING FILE MODIFICATION

The Survival Tracking File (STF) described in the Data section of this thesis was modified in several ways to facilitate its use. FORTRAN computer language programs were written to read desired fields, to aggregate them, to operate on them, and to write them to files suitable for further use.

1. Merge Program for Study of Overall Attrition Percentage for Ships and Classes of Ships

The FORTRAN program CARLMRG4 was written to read the basic Survival Tracking File (STF) and write a file from which overall attrition percentages for individual ships and classes of ships could be calculated. Appendix A describes the basic STF file variables from which were chosen certain variables pertinant to this study. Table 1 shows the variables of interest that were identified from the STF for use on this research project and prepared for merging with the Ship Class Unit Identification Code File described in Section A above.

The FORTRAN program CARLMRG4 operated in the following manner: all the ships records were read in from the Ship Class Unit Identification Code File (SCUIC). Then all the records of interest for the first person by Social Security Number (SSN) were read in from the STF. The UIC's of the first record were then checked to see if they contained any of the ship UIC's listed on the Ship Class UIC file. When a match was found, only the last record of an individual with a SHIP UIC was saved. This eliminated information from previous quarters which was not needed. This process continued until all of the UIC's that the first person served on were checked to see if they matched any of the UIC's of ships in the SCUIC. Then the saved records were written into a file along with the ship data information for the particular UIC from the Ship Class Unit Identification Code File. Now, a new record was read in by SSN and its UIC's were checked for ships of the SCUIC. This process continued until all of the records in the STF had been processed. The merged file now contained a one line record of every man in the STF that served on any

TABLE 1

STF VARIABLES IDENTIFIED FOR MERGING

Variable	Position	Field Width
Social Security Number	1	9
Race	10	1
Ethnic Group	11	1
Date of Birth (Year)	12	2
Date of Birth (Month)	14	2
AFQT	16	2
Education years	18	2
Education Certification	20	1
Primary Dependents	22	1
Term of Enlistment	23	1
CAAD -- Current Active Duty Date (Year)	24	2
CAAD -- Current Active Duty Date (Month)	26	2
EAOS -- Expiration of Active Obligated Service (Year)	28	2
EAOS -- Expiration of Active Obligated Service (Month)	30	2
Onboard Actual UIC (Unit Identification Code)	32	5
Sea/Shore Code	37	1
Loss Date of Occurance (Year)	38	2
Loss Date of Occurance (Month)	40	2
Loss Code Navy	42	3

of the ships listed in the Ships Class Unit Identification Code File. This one line record contained information about the individual (see Table 1), and information about the ships he served on (see Appendix B). Appendix F is a complete listing of the FORTRAN program used to merge the files as described in the preceding sentences. It should be noted that a record was written for every ship on which the individual served. This was the only way to ascertain how many of our STF cohort served on a particular ship so that this number could be compared to how many of our STF cohort attrited while serving on this ship. The construction of the STF and the data contained on it precluded other possibly more useful ways of calculating an attrition percentage. These other ways of calculation and ways to achieve them will be discussed later.

2. Merge Program for Study of Attrition Over Time

A different set of information was needed from the STF in order to study attrition over time. A data set was desired that would contain the information necessary to allow a study of attrition over time for the entire cohort, and attrition over time for smaller cohorts based on the individuals' entering month, and attrition over time for ships and classes of ships. Appendix G and Appendix H contain listings of FORTRAN programs CARLMRG7 and CARLUIC. These programs created the needed data set in the following manner. The program CARLMRG7 read in from the STF by Social Security Number (SSN) all the records for an individual. Then a subroutine scanned these records, reading the Current Enlistment Date (CED) (See Appendix A) and Loss Date of Occurrence fields. The CED was transformed into a variable called COHORT, corresponding to the month from one to 43 in which this individual began his enlistment. A cohort

value of one meant the individual began his enlistment in June of 1977; a cohort value of two corresponded to July 1977, and so on. The first time a field was found under Loss Date of Occurrence, three things happened. First, the ATTRIT 0,1 variable (1 = attrite) indicating attrition was set to indicate attrition. Secondly, the Loss of Date of Occurence was read and translated into the corresponding month from one to 43 (i.e., June 1977 to December 1980). This value was placed into the variable LMON indicating loss month. Third, the Unit Identification Code (UIC) that the man was onboard when the loss occurred was written into the variable UIC. In every case, whether an attrition occurred or not, the number of months of service tracked was calcualted and placed in the variable NMON. For ATTRIT values equal to one, NMON would indicate the number of months the individual had spent in the Navy prior to attriting. For ATTRIT values equal to 0, NMON would indicate the number of months the individual had been in the Navy as of the most recent STF update. As in the other merge file, this program forced the investigator to make some assumptions and uncomfortable decisions in order to get a useable file created.

The STF does not have a field exclusively dedicated to attrition in the traditional sense (i.e., attrition meaning prematurely leaving the Navy). One of the purposes of this research was to identify the ship that the man first attrited from or that might have influenced an individual's decision to become an unauthorized absentee (UA), etc. Some of the STF records had several different loss dates along with several last onboard UIC's and loss codes, meaning a scenario such as the following had occurred: the individual had gone UA for several months, been caught

and sent back to a ship; he had gone UA again, been caught, and sent to a shore station where he was eventually processed out of the Navy and added to the attrition statistics. However, this man had been effectively lost to the ship for months--even years--prior to actually being processed out of the Navy, in addition to the fact that the shore station was being "credited" with an attrition whose roots may have been connected with the ship the man was serving on when this sequence of events began. For these reasons, and to avoid counting the man as an attrition every time he had a Loss Date, or in being unable to determine where the man was at attrition initiation, only the first Loss Date of Occurrence was used and the UIC he was onboard at that time was credited with the attrition. This is, of course, a large assumption that probably introduces errors into the file, but the decision was made to proceed in this manner. Because of the shortcomings of the STF in handling this type of situation, this was deemed the best route. However, there is certainly room for other approaches to this problem. Another shortcoming of the STF that could not be circumvented at all was the inability to track accurately an individual from UIC to UIC. There is a field in the STF called "Onboard Transfer Date," but it was sparsely completed, usually only being filled in when the man attrited. Even then, the date was the same as the Loss Date of Occurence and only filled in for the UIC from which the man was attriting. The STF probably suffers, as do most historical tracking files, from large time intervals and low priority in getting the information to the file. Hence, the best way to accurately track a man from station to station would be to use some file such as the Enlisted Master Record (EMR), which is updated more often than once

a quarter,and which would be able to give more timely and accurate information as to where an individual was at a given time than the STF can do by itself. The STF is fairly accurate in reporting that the man did go to a school and the UICs on which he served prior to attriting from a certain UIC on a given date, but as to when the man arrived and departed from the various intermediate UIC's, the STF is of no help. This STF shortcoming resulted in a deficiency in the analysis of attrition over time. Whereas it was possible to determine for each ship when, in the 43 month period, an attrition occurred, it was not possible to determine how many of his cohort peers had been stationed on this ship during this particular month. Hence, a monthly attrition percentage could not be calculated. It was known how many of the overall cohort had served on the ship some time in the three and one half years covered by the STF, but not when during this period they had served on it; hence, an overall attrition percentage was possible (see Section B, 1.) but not one broken down month by month. As mentioned earlier, a more time-oriented file, such as the EMR, will have to be used in conjunction with the STF to address these questions.

After CARLMRG7 had created the five variable files described above from the master STF, it was desired to identify the attritions that had occurred from ships. The FORTRAN program CARLUIC did this and also added all the Ship Data Bank File (see Appendix B) information to the attrition information creted by CARLMRG7. This final file created by CARLMRG7 and CARLUIC (see Appendix G and Appendix H) was called 'MSS. S2987, STF COHRT6. A listing of the variables on the final file and their locations can be found in Appendix I.

C. FLEET STEAMING HOURS FILE MODIFICATION

Appendix C contains a description of the fields contained in the Fleet Steaming Hours Report. All of these data were not needed, however, so two FORTRAN programs were written to create a file that would allow the underway operating hours per month per ship to be compared to attrition figures per month obtained from the file created in Chapter III, Section B, 2. above. FORTRAN Program CARLFUEL read the ship name, period, UIC, and hours steaming underway from the master tape FUELHR. It then wrote these into a file. The FORTRAN program CARLFUEL1 took this file and added the Ship Data Bank File (see Appendix B) information for the UIC's of ships being studied (see Appendix E). This merged file was written into a file called MSS.S2987.FUEL4. Appendix L contains a description of the variables contained in this file and their location on the file. Appendix J contains a listing of FORTRAN program CARLFUEL, and Appendix K contains a listing of FORTRAN program CARLFUEL1.

IV. OBSERVATIONS AND FINDINGS

A. OVERALL VIEW COHORT ATTRITION

Before looking at attrition as related to ships and classes of ships, the overall cohort's attrition characteristics were examined. The cohort's survival function for the 3.5 years in question was calculated and displayed. Then the cohort's attrition history month by month was graphed and, finally, 12 small cohorts, based on enlistment commencement month, were tracked for the 43 month period. It was hoped that any large data based or cohort based anomalies could be detected at this stage. What follows is an explanation of how these cohort characteristics were examined and what was found. Possible explanations will be postulated for what is seen, but the primary purpose of this thesis is to describe and display what was found. Explanations as to why situations existed, or attempts at predicting trends or outcomes, contain enough subject material for many future theses.

1. Overall Cohort Survival Function

The Statistical Analysis System (SAS) was used as the primary analysis tool for this thesis. To calculate a cohort survival function, SAS was used to sum up the values for the variable ATTRIT over the entire COHRT6 file by LMON (loss month). These sums were then aggregated over the 43 months and subtracted from the cohort's beginning total of 94,174 individuals on a monthly basis. Appendix M lists the SAS program which generated the Survival Function graph from the numbers calculated as described above. Figure 1 shows this cohort survival function.

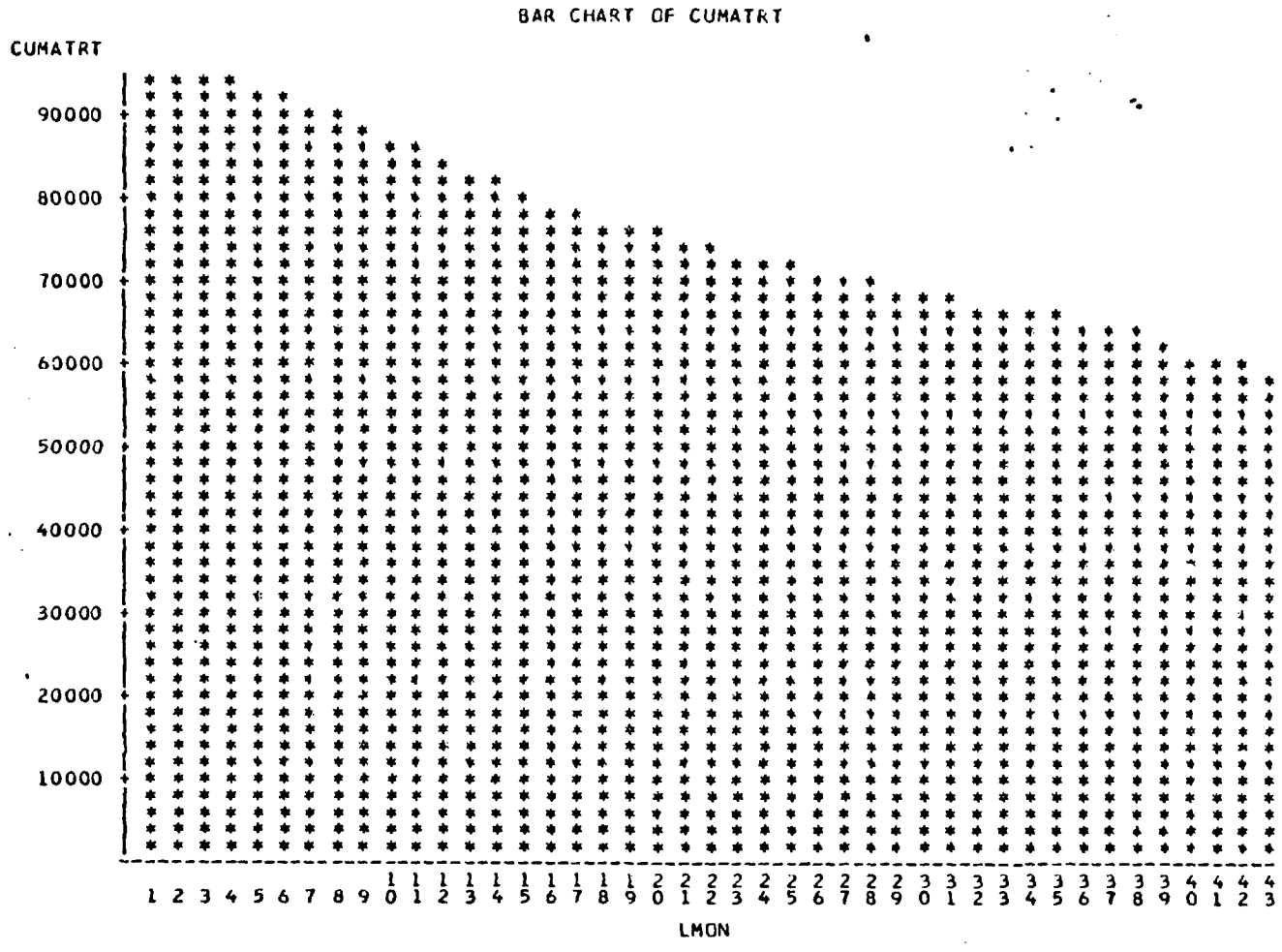

Fig. 1. Overall Cohort Survival Curve

Figure 2 shows the same function with an expanded, but truncated, vertical scale. Both figures show a fairly smooth attrition curve over time. Figure 2 indicates that for this cohort attrition is fairly linear over time with a steeper attrition slope at the beginning of the period of the enlistment and again at the beginning of the fourth year.

2. Overall Cohort Attrition History

SAS program CARLCHT2, contained in Appendix N, summed up the number of attritions by LMON (loss month) and created a bar graph to display them (see Figure 3). Figure 3 shows again the cohort attrition trend in Figure 2--high attrition in the early portion of the period followed by relatively constant lower attrition figures, capped by an increase in attrition numbers as the cohort begins its forth year.

3. Individual Monthly Cohort Attrition History

Appendix O contains SAS program CARLCHT4 which was used to create a graph of the attrition histories of 12 small cohorts. The program created 12 cohorts based on the month the individual began his enlistment. These 12 different cohorts were then tracked month by month for the remainder of the 43 month period. By sliding the time scale forward a month for each successive cohort chart, it is possible to compare attrition rates one month after commencement, two months after commencement, etc., across all twelve cohorts. Any monthly group displaying vastly different attrition profiles will stand out. Recurring trends will also be in evident. Appendix P contains a sample output of CARLCHT4. Several interesting trends are evidentin that output. First of all, cohort 1 (enlistment commencement in June 1977) had less overall attrition than

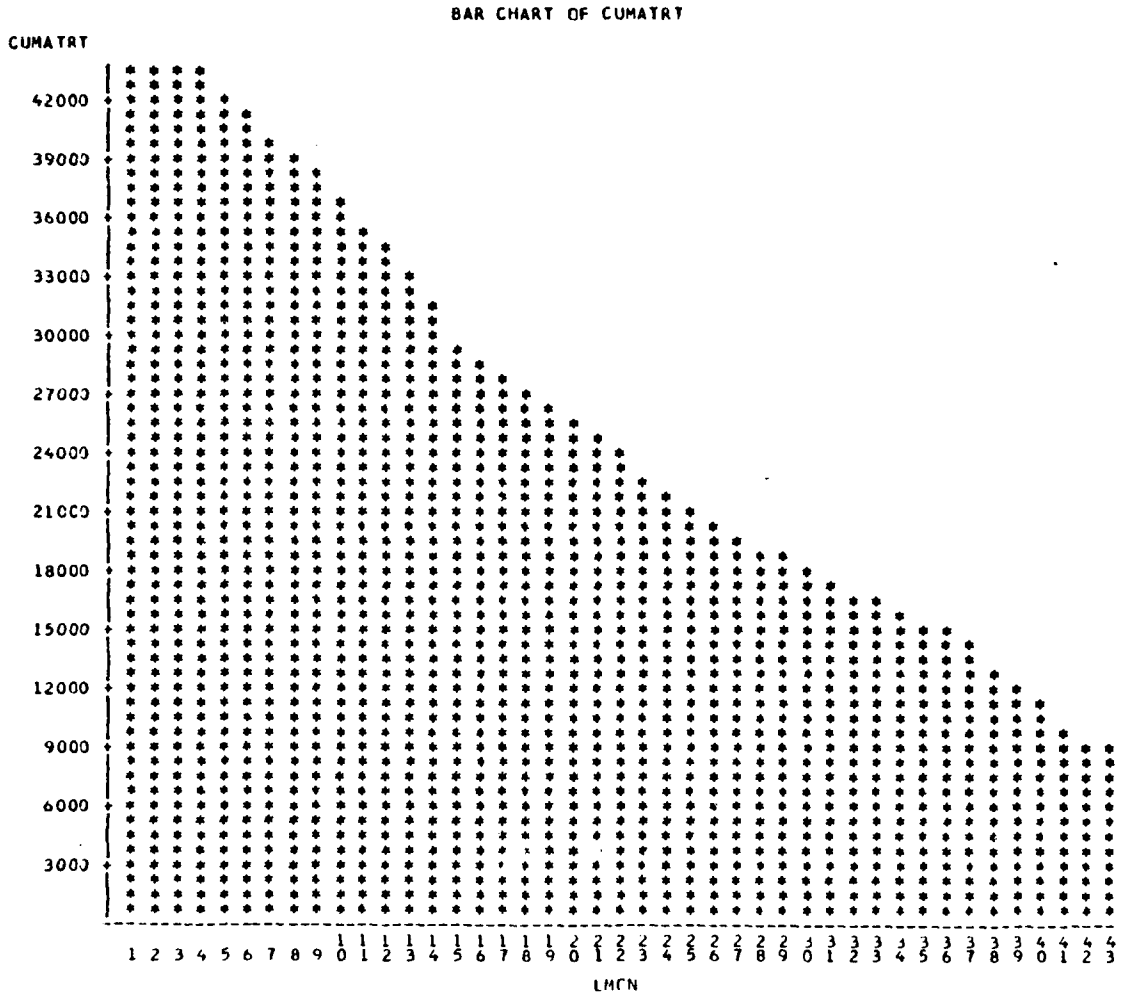

Fig. 2. Expanded Scale Survival Curve

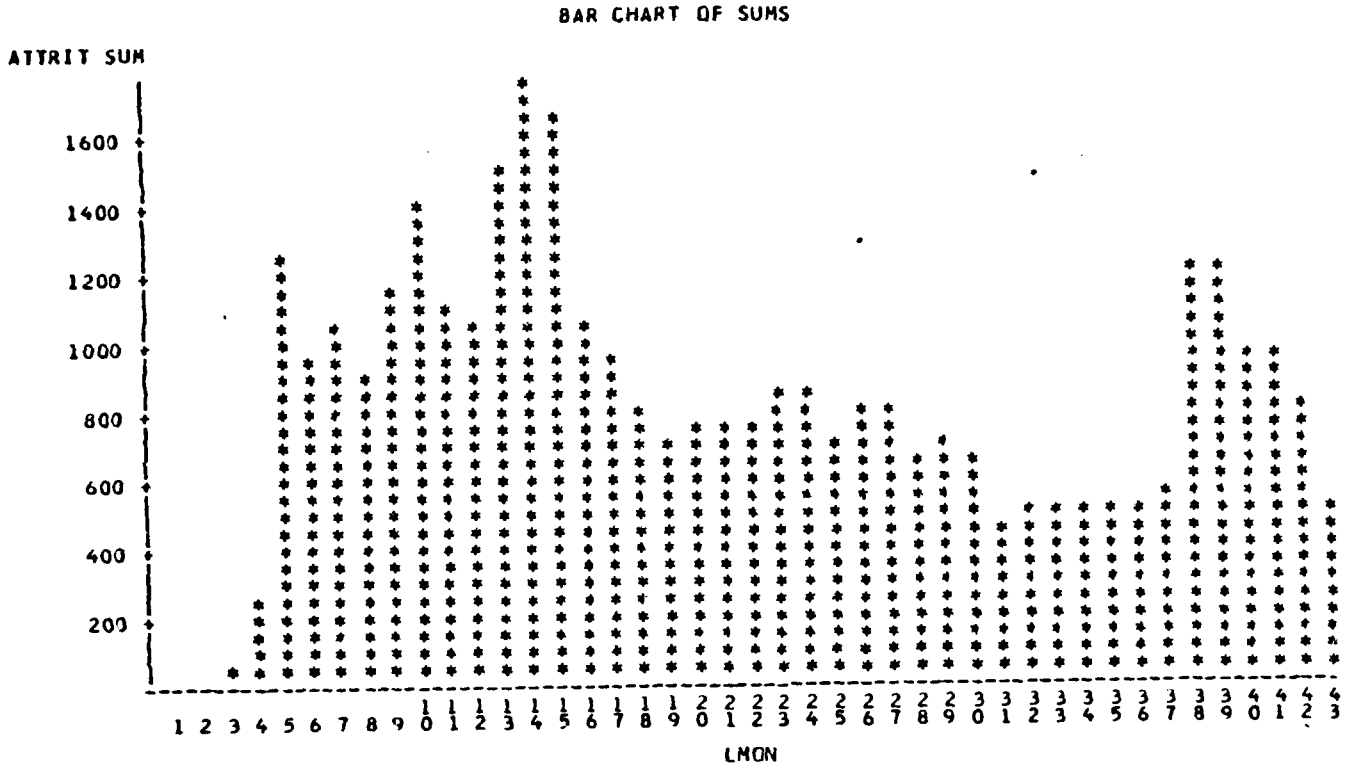

Fig. 3. Overall Cohort Attrition History

did succeeding cohorts. This is probably data induced as the STF was just being implemented at this time and reporting and updating procedures were probably not fully adequate. Beginning with cohort 3, two distinct attrition peaks manifest themselves and are evident in all of the remaining cohorts. These peaks occur in the one to three month period after enlistment and again at the 34 to 38 month period after enlistment. Recruit basic training attrition would seem to explain the first peak at one to three months after enlistment commencement, as this coincides with "Boot Camp" training, but the reason for the second peak is not clear. The second peak is the cause of the steeper attrition slope evident in the end of the survival function curve, and indicates an increase in attrition numbers as the cohort began the last quarter of their enlistment. Why did these men attrite in greater numbers when they only had about one year to go on their enlistment?

B. OVERALL ATTRITION PERCENTAGES

This portion of the thesis utilizes the STFUIC4 file created by the FORTRAN program CARLMRG4 (see Appendix F and Chapter III, Section B, 1) to examine overall attrition percentages for individual ships and for classes of different ships. This section also contains an analysis of variance (ANOVA) and a Duncan Multiple Range Test of intra-class attrition percentage differences.

1. Attrition Percentages for Individual Ships Grouped by Class

It was desired to display attrition figures for each ship grouped by class for the entire 43 month period so comparisons could be made among ships of the same class. It was also desired to calculate

the attrition percentage of each ship and its contribution to the overall attrition percentage and display it in tabular form by ship grouped by class. SAS programs CARLCHRT and CARLFREQ do this. CARLCHRT calculates the number of attritions per ship and displays them graphically for each ship grouped by class. CARLFREQ calculates the overall attrition percentage for each ship and it also displays for each ship the number of STF cohort members who served on each ship, the number of members who attrited from each ship, and the ship's contribution in numbers and percentage to the fleet-wide attrition percentage. These individual ship tables are grouped by class for easy comparison. CARLFREQ accomplished the above by searching for a Loss Date of Occurrence Code in each record of the merged file. The existence of a loss code in the merge file mean that this individual had attrited from the Navy while serving on this particular ship. The loss code (LCODE) was coded 0 if no loss code was present (i.e., the man was still in the Navy while he was on this ship) and coded 1 if a loss code was present (i.e., the man attrited from the Navy while serving on this ship). The merge file UIC4 was then sorted by class and then by ship within that class using the sequence code earlier added to the Ship Class Unit Identification Code File. Now the number of men from the STF cohort on each ship was counted (N). The number of men from the STF cohort who attrited from each ship was counted (SUM) and the percentage of attrition was calculated by dividing SUM by N. Appendix Q contains a complete listing of the SAS program CARLFREQ used to accomplish the above.

Appendix R contains a listing of SAS Program CARLCHRT described above and a display of overall ship attrition grouped by ship class. A

sample of this output is contained in Appendix S. The table of ship attrition percentages grouped by class created by the SAS program CARLFREQ is contained in Appendix T and shows measurable differences in attrition percentages among ships of different classes and also between ships of the same class. More will be said in the next two sections about the statistical significance of these class differences in attrition percentages.

2. Attrition Percentages for Different Classes of Ships

The master STF file used in this thesis was a very large STF file so that sample size was not a problem as it was in LCDR Dan Gardner's thesis [Ref. 4], or in later work done on his STF sample [Ref. 5]. The STF used for this research had 94,174 members initially for the full induction year beginning 1 July 1977. The newest member of the cohort had two and one half years of service as of 30 December 1980, while the oldest member had three and one half years of service. The original STF had 609,000 records which resulted in 61,018 records being written on the merge file. This 61,018 included the cohort members who had served on more than one ship. Since one purpose of this research was to analyze attrition by ship, it was important to know how many members of the cohort had served on a given ship at any time versus those who had served on a given ship and attrited while attached to that ship.

Table 2 summarizes the SAS findings by ship class. It shows there are differences in attrition rates among the different ship classes. Appendix U contains the following information: the number of cohort members who served on a given class of ship and did not attrite while an that class of ship; the number of cohort members who attrited while

TABLE 2

CLASS ATTRITION PERCENTAGE SUMMARY

Class	No. of Ships In Class	Minimum Attrition Rate (Percent)	Maximum Attrition Rate (Percent)	Average Attrition Rate (Percent)	Average Number of Cohort Assigned Per Ship
1. SSNB	82	0.00	7.69	1.11	39.54
2. AGSS	1	0.00	0.00	0.00	3.00
3. SSN	74	0.00	30.95	1.85	32.16
4. SS	9	0.00	12.00	4.37	20.34
5. CVN	3	6.40	11.35	9.80	922.00
6. CV	11	1.19	15.47	11.45	938.54
7. CGN	8	5.56	11.56	8.49	163.50
8. CG	20	0.60	13.51	6.58	154.30
9. DDG	37	1.39	12.39	8.15	119.75
10. DD	58	0.00	15.79	8.42	82.96
11. FFG	7	4.62	10.96	7.55	71.86
12. FF	59	0.00	17.28	7.88	83.90
13. PHM	1	0.00	0.00	0.00	3.00
14. PG	2	0.00	0.00	0.00	4.50
15. LCC	2	3.42	10.20	6.69	254.00
16. LHA	3	5.88	13.54	8.37	274.67
17. LPH	7	8.08	18.06	11.02	215.29
18. LPD	14	6.35	16.80	11.19	138.50
19. LSD	13	4.76	21.05	12.65	113.69
20. LST	20	2.90	18.84	11.42	74.45
21. LKA	6	4.93	16.49	11.26	114.00
22. LPA	2	3.17	5.06	4.23	71.00
23. MSO	25	0.00	30.00	5.54	13.00
24. AD	9	6.10	15.21	12.40	289.45
25. AE	13	6.94	16.90	11.56	130.46
26. AFS	7	0.00	15.38	8.84	143.86
27. AG	1	9.09	9.09	9.09	88.00
28. AGDS	1	1.39	1.39	1.39	72.00
29. AGF	1	0.00	0.00	0.00	264.00
30. AOE	4	7.14	9.27	8.64	317.00
31. AOR	7	7.00	15.79	10.96	152.57
32. AO	7	2.96	16.53	9.12	130.00
33. AR	4	10.07	13.75	11.95	276.25
34. ARS	9	0.00	17.85	7.02	31.66
35. AS	11	0.51	15.34	6.67	331.09
36. ASR	6	2.17	10.34	6.45	36.16
37. ATF	6	0.00	21.43	6.38	15.67
38. ATS	3	0.00	2.94	0.96	34.67
39. AVM	1	12.50	12.50	12.50	96.00

serving on a ship of that class; a class attrition rate; and the percentage that this class contributed to the overall attrition. Appendix V presents a bar graph depicting attrition rates for each ship class on a 0 to 1 scale (percent divided by 100). Appendix T contains a ship by ship breakdown of cohort members assigned to a particular ship, cohort members who attrited while assigned to that ship, an attrition rate for that ship, and a percentage of overall attrition contributed by that ship. Recall that Appendix S contains a sample of the output of CARLCHRT which is a bar graph which depicts attrition rate on a 0 to 1 scale (percent divided by 100) for each ship. As these appendices are sorted by class, it is easy to compare attrition both in total numbers and relative percentages from ship to ship in the same class. It is evident that some disparities among ships of the same class do exist, but the attrition rates are close to the class average. Table 2 also includes information about the range of attrition within each ship class.

3. Analysis of Variance and Duncan Range Test on Class Attrition Percentages

SAS was again employed to study the differences in attrition percentages among the various classes of ships. Two programs, CARLDAT1 and CARLDAT2, were used to perform an analysis variance (ANOVA) and a Duncan Multiple Range Test on the class attrition percentages. The programs are identical,except that CALLDAT2 uses the following transform on each class attrition percentage prior to comparing them:

```
PERCENT = ATTRIT/ASSIGN
TPERCENT = (SQRT(ASSIGN))*(ARCSIN((2*PERCENT)-1))
```

This transform is a "variance flattening" transform and its effect is

to enhance the differences of the class attrition means allowing a more revealing comparison of class attrition percentages. Table 3 and Table 4 contain the output of the ANOVA for untransformed and transformed class attrition percentages. The untransformed model was not bad, but the transformed model shown in Table 4 of TPERCENT = TYPE (i.e., class) is better in all measures. The F value is much higher for the transformed model indicating that the model as a whole accounts well for the dependent variable's behavior. The significance probability PR > F indicates that the F value is significant and the R-square in Table 4 indicates that almost 75 percent of the dependent variable's variance can be accounted for by the model. Table 5 and Table 6 show the results of the Duncan Multiple Range Test for the untransformed and the transformed data. Table 6 again shows how much better the transformed data shows up the differences in the class attrition percentages. It should be noted that the transformed class attrition percentage has some shifing of order based on means when compared to the untransformed means. This is caused by the large disparity in the number of ships from class to class.

Appendix W contains a listing of SAS program CARLDAT2. Appendix X contains a table displaying by type (class), the number of ships (N), mean, minimum, maximum, and sum for each of the variables, ATTRIT (number of personnel who attrited), ASSIGN (number of personnel assigned), and PERCENT(ATTRIT/ASSIGN). This table is especially useful as it shows by class the range of attrition and the values, comparative magnitude, counts, etc., that influenced the attrition percentage calculation that has been examined.

TABLE 3

ANALYSIS OF VARIANCE OF CLASS ATTRITION

PERCENTAGES FOR THE DEPENDENT VARIABLE: PERCENT

Source	DF	Sum of Squares	Mean Square	F
Ship Class	23	0.73254584	0.03184982	23.77
Error	461	0.61775564	0.00134003	
Corrected Total	484	1.35030149		

Model F Value = 23.77

Model PR > F = 0.0001

Model R-Square = 0.542505

Model Coefficient of Variation = 54.7883

Standard Deviation = 0.03660647

Percent Mean = 0.6681442

TABLE 4

TRANSFORMED ANALYSIS OF VARIANCE OF CLASS ATTRITION

PERCENTAGES FOR THE DEPENDENT VARIABLE: T PERCENT

Source	DF	Sum of Squares	Mean Square	F
ship Class	23	6663.57996137	289.72086789	62.33
Error	461	2142.79369376	4.64814251	
Corrected Total	484	8806.37366013		

Model F Value = 62.33

Model PR > F = 0.0001

Model R-Square = 0.756677

Model Coefficient of Variation = 20.6501

Standard Deviation = 2.15595513

T Percent Mean = -10.44042315

TABLE 5

DUNCAN'S MULTIPLE RANGE TEST FOR DIFFERENCES IN

CLASS ATTRITION PERCENTAGES

S T A T I S T I C A L A N A L Y S I S S Y S T E M

ANALYSIS OF VARIANCE PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE PERCENT

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=461 MS=0.00134

GROUPING	MEAN	N	TYPE
A	0.125478	13	19
A A	0.119959	9	24
B A A	0.117498	4	33
B A A	0.115682	13	25
B A A	0.115390	11	6
B A A	0.113682	20	20
B A A	0.112799	14	18
B A A	0.111627	6	21
B A A	0.109555	7	17
B A A	0.109010	7	31
B A A	0.096211	3	5
B A A	0.092021	7	32
B A A	0.091879	3	16
B A A	0.086107	7	26
B A A	0.085594	4	30
B B	0.083222	57	10
B B	0.082249	8	7
B B	0.082192	37	9
B B	0.078607	59	12
B B	0.078379	9	34
B B	0.074539	11	35
B B	0.071723	20	8
C C	0.017727	74	3
C	0.010887	82	1

TABLE 6

DUNCAN'S MULTIPLE RANGE TEST FOR DIFFERENCES IN

TRANSFORMED CLASS ATTRITION PERCENTAGES

S T A T I S T I C A L A N A L Y S I S S Y S T E M

ANALYSIS OF VARIANCE PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE TPERCENT

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=461 MS=4.64814

GROUPING	MEAN	N	TYPE
A	-6.131725	9	34
A A			
B A	-7.686846	20	20
B B			
B	-8.052813	74	3
C	-9.058415	82	1
C C			
D C C	-9.117712	13	19
D C C C	-9.133929	57	10
D C C C	-9.382349	59	12
D C C C	-9.568959	6	21
D C C C	-10.051264	13	25
D E C C	-10.481628	14	18
E E C C	-10.908298	37	9
E E E C	-10.952165	7	32
E E E	-11.159554	7	31
G E E	-12.210037	7	26
G G E	-12.536775	8	7
G G	-13.076144	20	8
H G	-13.198495	7	17
H H	-14.338978	4	30
H H	-14.407053	4	33
H H	-14.523746	9	24
H H	-16.053667	3	16
I	-19.088452	11	35
J	-27.336267	11	6
K	-28.519072	3	5
K K			

C. OVER TIME COMPARISON OF ATTRITION HISTORY AND STEAMING HOURS UNDERWAY

As a precursor to further exploritory studies, a graphical cursory comparison between attrition and hours underway was performed. Using the STF COHRT6 file (see Appendix I) and the FUEL4 file (see Appendix L), attrition history was compared to underway hours for classes of ships and for individual ships of three classes.

1. Underway Hours and Attrition Comparisons Among Classes of Ships

SAS program CARLCLS1, listed in Appendix Y, displays class attrition history by loss month. Appendix B8 is an overall class attrition summary table by loss month. Program CARLFHR2 displays class steaming hours underway by loss month. The program is listed in Appendix Z. Sample outputs of these programs, contained in Appendix AA and Appendix B8, are displayed in the same class order and cover the same period of time, i.e., 43 months from June 1977 to December 1980. Some interesting things can be seen by comparing these two graphs. For instance, SSN's (nuclear submarines) show an extremely high operating schedule but have almost no attrition. This is said to be characteristic of nuclear powered submarines which, popular wisdom says, transfer most marginal people before they become attrition statistics. This portion of the Navy also allegedly has enjoyed the cream of the recruiting crop each year. CV's (aircraft carriers) show a very flat constant operating curve of about 262 hours underway per month per CV, yet the attrition history curve shows large peaks at 15 and 38, 39 months. LHA's (amphibious assault ships) have one of the smaller averages of underway hours, 150 hours per month per LHA and also one of the smaller attrition percentages

for large ships--only 8.37 percent compared to 11.45 for CV's and 12.65 for LSD's (dock landing ships) (see Table 2 and Appendix D).

On the other side of the scale is the AD (destroyer tender) which is only underway an average of 64 hours a month, yet it has one of the highest attrition percentages of 12.4 percent. Clearly, no obvious pattern exists, but when more variables are controlled for and the employment of these ships during their underway periods is added, maybe more relationships will be evident. Appendix DD contains a summary of underway hours by class of ship, the mean, standard deviation, minimum, maximum, range, sum, and variance. This is a useful table, especially when compared with Table 2, which summarizes class attrition percentages.

2. Underway Hours and Attrition Comparisons Between Ships of Three Different Classes

SAS Program CAUWCLAS was used to generate from file FUEL4 a ship-by-ship underway steaming hours history for three classes of ships: CV (aircraft carriers), FF (fast frigate), and LST (tank landing ship). This program, which is listed in Appendix EE, also creates a table which displays mean, standard deviation, minimum, maximum, range, sum, and variance of underway hours for each ship of each class. These underway data are compared with attrition history generated for each ship of each class by the SAS programs CAHISTCV, CAHISTFF, and CARHISLST, all of which are contained in Appendix FF. A comparison of these two data sets for ships of the same class is a rought cut at attempting to control for a few more variables by looking at ships with similar crew size, engineering plant, age, weapons suite, mission, habitability, number of cohort members assigned, and maybe even similar cohort distribution functions over time

(i.e., roughly ten members assigned to each ship of this class after six months of service, 20 members/month/ship through the 14th month of service, etc.). Comparisons using these data yield some interesting observations. For example, for CV's, attrition comes in cycles--a period of high attrition followed by a lull of lower attrition. The underway history is similar, with long periods of underway time followed by periods of inport time. These lulls did not exactly coincide, but on several, such as the Ranger (CV 61), the two phases were close, with attrition falling off as the ship neared a long inport period and rising toward the end of the inport period, as the ship neared a period of a great number of hours of underway steaming. A comparison of Appendix U (attrition percentage summary by ship) and Appendix GG (underway hours by ship) yielded a rough relationship between underway ranking and attrition percentage ranking. The three CV's with the highest average underway hours per month had the 3 lowest attrition percentages, and of the four CV's with the lowest average underway hours per month, three of them had the highest three attrition percentages. The fourth was in the middle of the ranking. Table 7 shows this relationship more clearly. These types of relationships, while not necessarily true for all cases, definitely deserve further explanation and should be included in any kind of regression based prediction model. Appendix HH contains a sample of the attrition history for each ship of each class and Appendix GG contains a sample output of the underway hours history for each ship of each class. A sample of the table listing for each ship of each class for the mean, standard deviation, and variance of underway hours is contained in

TABLE 7

ATTRITION VS UNDERWAY HOURS RELATIONSHIP FOR AIRCRAFT CARRIERS

Ship		Attrition Percentage	Mean Underway Hours for Month	Attrition Rank	Underway Hours Rank
Midway	CV 41	1.19	382.8	1	10
Constellation	CV 64	8.99	363.9	2	9
Kitty Hawk	CV 63	10.87	317.6	3	8
Saratoga	CV 60	10.90	253.9	4	5
America	CV 66	12.16	207.04	5	1
Forrestal	CV 59	12.26	257.9	6	6
Coral Sea	CV 43	12.61	268.7	7	7
J. F. Kennedy	CV 67	13.20	220.6	8	2
Independence	CV 62	19.51	222.4	9	3
Ranger	CV 61	14.75	244.21	10	4

Appendix II. The data in Appendix II are most useful when compared to Appendix U, which shows attrition percentages for each ship.

V. CONCLUSIONS

A. SUMMARY

This thesis set out with the purpose of using several data bases, primarily the Survival Tracking File (STF), to explore ship connected attrition. As mentioned in the introduction to this thesis, the U.S. Navy can ill-afford to lose one third of the people it enlists into the Navy, especially in today's Navy with its high dependence on trained personnel. Since the Navy is ships at sea, this study concentrated on some of the many factors that affect shipboard attrition. Unfortunately, getting the available data into files that were useful in looking at ship-by-ship attrition took more time than was anticipated. Also, several data based deficiencies were discovered that made the approach in this thesis rather convoluted. This thesis has served the purpose of creating data file building blocks and illuminating areas of useful pursuit so that more exhaustive research can be made into explaining and predicting some of the attrition differences discovered during the course of this thesis. It is hoped that readers of this thesis will become aware of some of the many promising avenues of further study that were only touched on during this study, and, by avoiding some of the pitfalls described, find ways to make the data files and observations developed in this thesis more useful.

B. RECOMMENDATIONS

This section will attempt to point out some of the solutions to problems encountered during this study, and to indicate some of the many possible avenues open for continuing this type of research.

In updating master data tapes like the STF, Fleet Steaming Hours Report, and the Quarterly Force Employment Schedule (discussed below), the key is to start early. The Fleet Material Support Office was very responsive with tapes arriving in Monterey only a couple of days after requested. The other sources of data took longer to obtain, but OP-13 personnel were very helpful in obtaining and working with the STF. When requesting file updates, be sure to specify what field you want to be used as the key field in delineating the specific time period of interest. This study requested the cohort that entered the Navy from July 1977 to June 1980; however, the STF was created using the Active Duty Service Date (ADSD) which resulted in people with prior service or interrupted service, etc., being included in the data base and having to be separated out later. For this type of study, using the CADD (Current Active Duty Date) along with the ADSD would have avoided some of these problems and would have been a better way to go. It is important to realize that as-of dates only mean that the file was updated on this date and not that all changes that occurred before this date are included on the file. Old files are constantly revised as new data comes in on past events. Only date-of-occurrence dates indicate when an event actually took place.

Consult with Naval Postgraduate School (NPS) computer center personnel before ordering tapes to ensure data tape characteristics are compatible with the NPS computer. Check to ensure the entire tape reads into mass

storage correctly and ensure block size is correctly designated for the logical record length specified in mass storage file Job Control Language (JCL) cards. As mentioned earlier, the STF must be married to a more real-time oriented data base such as the Enlisted Master Record (EMR) for more meaningful attrition studies. The STF as it exists is fine for discrete period studies, but more information as to where a particular cohort member was at a given time is needed to study attrition in a continuous time manner.

C. AREAS OF FURTHER RESEARCH

This thesis suggests many different avenues for further research. One of the most promising ways of exploiting the data files created is to use the tool of multiple regression to develop predicting equations for attrition from ships or classes of ships. Some of the variables that are available and might be included in a regression model are the ship's class-wide attrition percentages, the ship's underway hours, its engineering plant type, its crew size, and its homeport. Use of the Quarterly Force Employment Schedule file described in Appendix JJ would allow the addition of information pertaining to what exactly was the ship doing while underway or in port (i.e., was it deployed to the Western Pacific or undergoing a major overhaul in Long Beach, California?) Other factors that might influence attrition could be explored: for instance comparing attrition to a plot of the tenure of the ship's commanding officers over time could perhaps prove interesting.

Perhaps development of a "Ship Performance Index" based on inspection scores, battle efficiency awards, retention figures, etc., could be

compared to ship attrition figures to see what affect being on a "top" ship has on attrition. Of course, this would be highly sensitive to the makeup of the index used, but maybe it could be shown that achieving measures of "success" are detrimental to attrition and retention. Then the trade-offs between men and mission could be explored. In short, the study of ship-connected attrition involves a large number of variables, each of which merits investigation to determine its impact on attrition to see if there really is a difference in attrition from ship to ship or among classes of ships. The important factors affecting attrition probably involve some combination of pre-service characteristics--like education and family background--taken together with post-enlistment factors--like class of ship assigned to, operational rate, homeport, commanding officer leadership, underway history, ship performance, and morale. Some of these factors are difficult to quantify, but most can be examined and their significance explored. Only when this is done will the Navy understand its attrition problem and be able to attack it effectively. Reducing the current high attrition figure is a relatively low-cost solution to at least part of the Navy's manpower problems. It is an area where even small gains can payoff in large savings to the Navy.

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APPENDIX A

SURVIVAL TRACKING FILE (LONGITUDINAL) VARIABLES

Social Security Number
As-Of Date Fiscal Year
Quarter
Count
Strength Indicator
Sex
Race
Ethnic Group
Date of Birth
AFQT (Armed Forces Qualification Test)
Education Years
Eduction Certification
A-School Indicator
Dependency Primary
Term Enlistment
Type Enlistment
Term Status
Number of Enlistments
Type of Acquisition
Type of Program
Rate/Special Prog Code
Branch/Class
RADO Mos (Reserve Action Duty Obligation)
Enlisted Designator
Present Rate Code
Present Pay Grade
PNEC (Primary Navy Enlisted Classification)
SNEC (Secondary Navy Enlisted Classification)
ADSD (Active Duty Start Date)
PEBD (Pay Entry Base Date)
CED (Current Enlistment Date)
CADD (Current Active Duty Date)
EAOS (Expiration of Active Obligated Service)
Soft EAOS
EAOS Change Indicator
Onboard Actual UIC (Unit Identification Code)
Onboard ACC (Accounting Category Code)
Onboard Sea/Shore Code
Onboard Transfer Date
Past Actual UIC
SRB Received Indicator (Selective Re-enlistment Bonus)
Zone
Skill Indicator
Award Level

RQC (Recruit Quality Control Code)
Loss Date of Occurrence
Loss Code Navy
Loss code DOD (Department of Defense)

APPENDIX B

SHIP DATA BANK FILE DESCRIPTION

Count (Sequential Number for SAS Sort Use)

UIC (Unit Identification Code)

Hull Number

Ship Name

Homeport

TAC (Type of Activity Code)

Ship Type
- Class
- Sub-Class

Size (Personnel)

Age (Commissioning)

Engineering Plant

Nuclear Capable

Location

Active/NRF

APPENDIX C

FLEET STEAMING HOURS REPORT DATA FILE DESCRIPTION

Variable	Position	Field Width
Ship		
Type	1	4
Hull Number	5	4
Period		
Year	9	2
Month	11	2
UIC (Unit Identification Code)	13	5
Hours Steaming		
Underway	18	3
Standstill	21	3
Hours Not Steaming	24	3
Diesel Fuel Used (Gals.) Underway	27	8
Diesel Fuel Used (Gals.) Not Underway	35	6
JP 5 Fuel Used (Gals.) Underway	41	8
JP 5 Fuel Used (Gals.) Not Underway	49	6
Others -- Fuel Used (Gals.) Underway	55	8
Others -- Fuel Used (Gals.) Not Underway	63	6

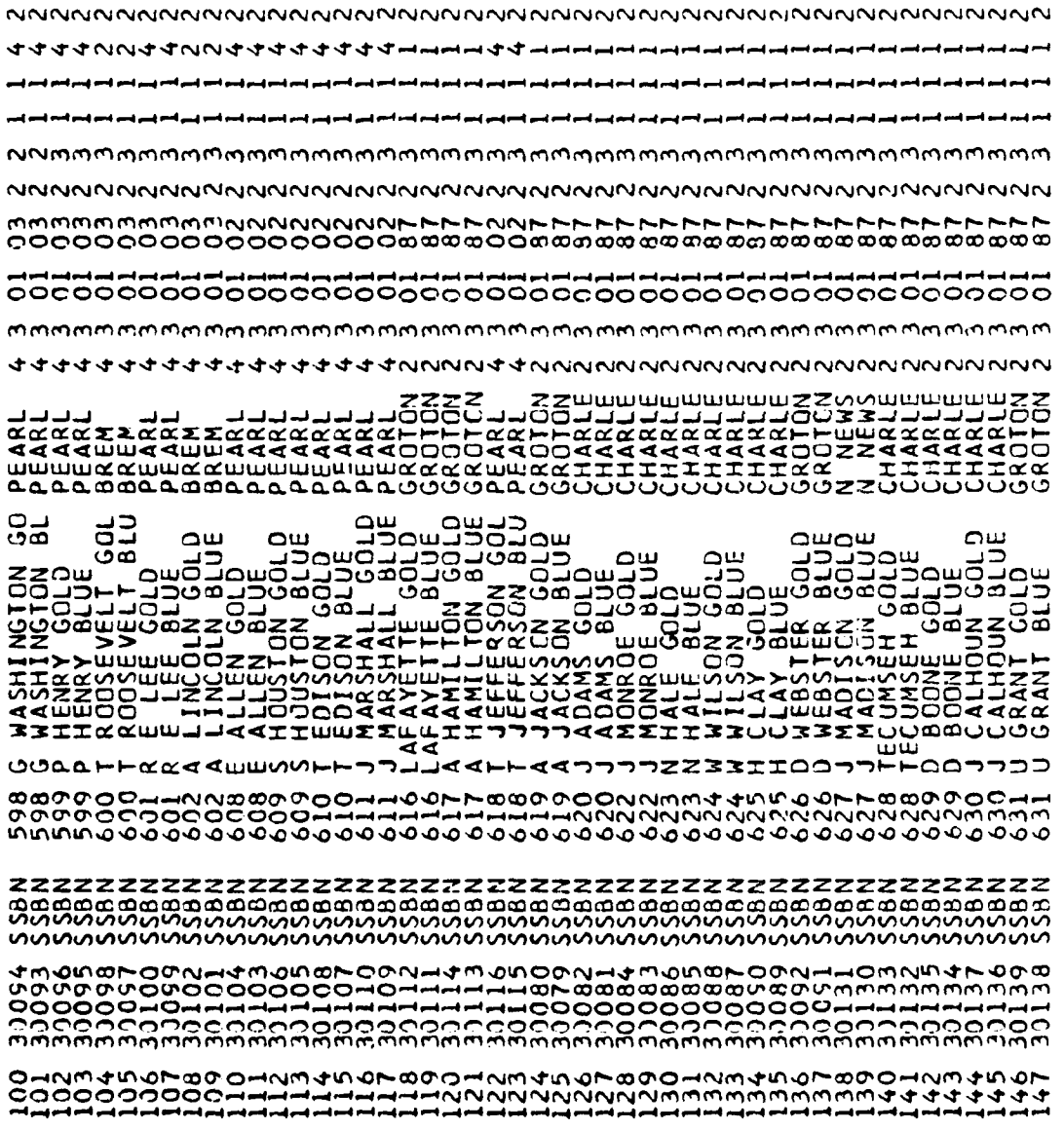
APPENDIX D

SHIP CLASS NAMES

Class	Ship Type Designation	Class Name
1.	SSNB	Ballistic Missile Submarine (Nuclear)
2.	AGSS	Research Submarine Diesel
3.	SSN	Submarine (Nuclear)
4.	SS	Submarine (Diesel)
5.	CVN	Aircraft Carrier (Nuclear)
6.	CV	Aircraft Carrier
7.	CGN	Guided Missile Cruiser (Nuclear)
8.	CG	Guided Missile Cruiser
9.	DDG	Guided Missile Destroyer
10.	DD	Destroyer
11.	FFG	Guided Missile Frigate
12.	FF	Frigate
13.	PHM	Patrol Combatant Missile (Hydrofoil)
14.	PG	Patrol Combatant
15.	LCC	Amphibious Command Ship
16.	LHA	Amphibious Assault Ship
17.	LPH	Amphibious Assault Ship
18.	LPD	Amphibious Transport Dock
19.	LSD	Dock Landing Ship
20.	LST	Tank Landing Ship
21.	LKA	Amphibious Cargo Ship
22.	LPA	Amphibious Transport Ship
23.	MSO	Ocean Minesweeper
24.	AD	Destroyer Tender
25.	AE	Ammunition Ship
26.	AFS	Combat Stores Ship
27.	AG	Missile Test Ship
28.	AGDS	Auxiliary Deep Submergence Support Ship
29.	AGF	Command Ship
30.	AOE	Fast Combat Support Ship
31.	AOR	Replenishment Oiler
32.	AO	Oiler
33.	AR	Repair Ship
34.	ARS	Salvage Ship
35.	AS	Submarine Tender
36.	ASR	Submarine Rescue Ship
37.	ATF	Fleet Ocean Tug
38.	ATS	Salvage and Rescue Ship
39.	AVM	Guided Missile Ship

APPENDIX E

SHIP CLASS UNIT IDENTIFICATION CODE FILE



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255	20788	SSN	697	INDIANAPOLIS	PEARL	4	3	03	04	2	4	1	4	2
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262	05604	SS	581	BLUEBACK	SDGO	2	3	04	16	1	2	6	2	1	2
263	05605	SS	582	BONEFISH	SDGC	2	3	04	16	1	2	6	2	1	2
264	05567	SSAG	567	GUDGEON	SDGO	2	3	04	19	1	2	6	2	2	2
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270	03343	CV	43	CORAL SEA	ALAMED	2	4	06	27	9	1	3	1	2	2
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273	03361	CV	61	RANGER	SDGO	2	4	06	25	9	2	2	1	2	2
274	03362	CV	62	INDEPENDENCE	NORVA	2	4	06	25	9	2	2	1	1	2
275	03363	CV	63	KITTY HAWK	SDGO	2	4	06	24	9	3	2	1	2	2
276	03364	CV	64	CONSTELLATION	SDGC	2	4	06	24	9	3	2	1	2	2
277	03366	CV	66	AMERICA	NORVA	2	4	06	24	9	3	2	1	1	2
278	03367	CV	67	JOHN F KENNEDY	NORVA	2	4	06	24	9	3	2	1	1	2
279	03318	AVT	16	LEXINGTON	PHILA	2	4	06	26	9	1	3	2	1	2
280	03651	CGN	9	LONG BEACH	SDGO	2	1	07	34	7	3	1	1	2	2
281	52700	CGN	25	BAINBRIDGE	SDGO	2	1	07	33	5	3	1	1	2	2
282	52712	CGN	35	TRUXTUN	SDGC	2	1	07	30	5	3	1	1	2	2
283	20541	CGN	36	CALIFORNIA	NORVA	2	1	07	29	5	4	1	1	1	2
284	20669	CGN	37	SOUTH CAROLINA	NORVA	2	1	07	29	5	4	1	1	1	2
285	20681	CGN	38	VIRGINIA	NORVA	2	1	07	28	5	4	1	1	1	2
286	20682	CGN	39	TEXAS	NORVA	2	1	07	28	5	4	1	1	1	2
287	20624	CGN	40	MISSISSIPPI	NORVA	2	1	07	28	5	4	1	1	1	2
288	03591	CG	5	OKLAHOMA CITY	YOKSKA	4	1	08	36	7	1	3	1	3	2
289	03623	CG	10	ALBANY	GAETA	4	1	08	35	7	1	3	1	3	2
290	03636	CG	11	CHICAGO	SDGC	2	1	08	35	7	1	3	1	2	2
291	52687	CG	16	LEAHY	SDGO	2	1	08	32	5	3	2	1	2	2

292	52688	CG	17	H E YARNELL	NORVA	2	1	08	32	5	3	2	1	1	2
293	52689	CG	18	WORDEN	YOKSKA	4	1	08	32	5	3	2	1	3	2
294	52690	CG	19	DALE	MAYPRT	2	1	08	32	5	3	2	1	1	2
295	52691	CG	20	R K TURNER	CHARLE	2	1	08	32	5	3	2	1	1	2
296	52692	CG	21	GRIDLEY	SDGO	2	1	08	32	5	3	2	1	2	2
297	52693	CG	22	ENGLAND	LNGBCH	2	1	08	32	5	3	2	1	2	2
298	52698	CG	23	HALSEY	SDGO	2	1	08	32	5	3	2	1	2	2
299	52699	CG	24	REEVES	PEARL	4	1	08	32	5	3	2	1	4	2
300	52702	CG	27	JOSEPHUS DANIEL	NORVA	2	1	08	31	5	3	2	1	1	2
301	52703	CG	28	WAINWRIGHT	CHARLE	2	1	08	31	5	3	2	1	1	2
302	52704	CG	29	JOUETT	SDGO	2	1	08	31	5	3	2	1	2	2
303	52705	CG	30	HORNE	SDGO	2	1	08	31	5	3	2	1	2	2
304	52706	CG	31	STERETT	LNGBCH	2	1	08	31	5	3	2	1	2	2
305	52707	CG	32	W H STANDLEY	SDGO	2	1	08	31	5	3	2	1	2	2
306	52708	CG	33	FOX	SDGO	2	1	08	31	5	3	2	1	2	2
307	52709	CG	34	BIDDLE	PHILA	2	1	08	31	5	3	2	1	1	2
308	04668	DDG	2	CHARLES F ADAMS	MAYPRT	2	1	09	37	4	3	2	1	1	2
309	04669	DDG	3	JOHN KING	NORVA	2	1	09	37	4	3	2	1	1	2
310	04670	DDG	4	LAWRENCE	NORVA	2	1	09	37	4	3	2	1	1	2
311	04671	DDG	5	CLAUDE RICKETTS	NORVA	2	1	09	37	4	3	2	1	1	2
312	04672	DDG	6	BARNEY	NORVA	2	1	09	37	4	3	2	1	1	2
313	04673	DDG	7	HENRY B WILSON	SDGO	2	1	09	37	4	3	2	1	2	2
314	04674	DDG	8	LYNDE MCCORMICK	SDGO	2	1	09	37	4	3	2	1	2	2
315	04675	DDG	9	TOWERS	SDGO	2	1	09	37	4	3	2	1	2	2
316	04676	DDG	10	SAMPSON	MAYPRT	2	1	09	37	4	3	2	1	1	2
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322	04682	DDG	16	JOSEPH STRAUSS	PEARL	4	1	09	37	4	3	2	1	4	2
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324	04684	DDG	18	SEMMES	CHARLE	2	1	09	37	4	3	2	1	1	2
325	04685	DDG	19	TATTNALL	MAYPRT	2	1	09	37	4	3	2	1	1	2
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327	04687	DDG	21	COCHRANE	PEARL	4	1	09	37	4	3	2	1	4	2
328	04688	DDG	22	BEN STODDERT	PEARL	4	1	09	37	4	3	2	1	4	2
329	04690	DDG	23	RICHARD E BYRD	NORVA	2	1	09	37	4	3	2	1	1	2
330	04691	DDG	24	WADDELL	BREM	2	1	09	37	4	3	2	1	2	2
331	52231	DDG	37	FARRAGUT	NORVA	2	1	09	38	4	3	2	1	1	2
332	52232	DDG	38	LUCE	MAYPRT	2	1	09	38	4	3	2	1	1	2
333	52233	DDG	39	MACDONOUGH	CHARLE	2	1	09	38	4	3	2	1	1	2
334	52234	DDG	40	COONTZ	NORVA	2	1	09	38	4	3	2	1	1	2
335	52235	DDG	41	KING	NORVA	2	1	09	38	4	3	2	1	1	2
336	52236	DDG	42	MAHAN	CHARLE	2	1	09	38	4	3	2	1	1	2
337	52683	DDG	43	DAHLGREN	NORVA	2	1	09	38	4	3	2	1	1	2
338	52684	DDG	44	WILLIAM V PRATT	PHILA	2	1	09	38	4	3	2	1	1	2
339	52685	DDG	45	DEWEY	CHARLE	2	1	09	38	4	2	2	1	1	2

340	52686	DDG	46	PREBLE	PEARL	4	1	09	38	4	3	2	1	4	2
341	52196	DDG	31	DECATUR	BREM	2	1	09	39	4	2	2	1	2	2
342	52192	DDG	32	JOHN PAUL JONES	SDGO	2	1	09	39	4	2	2	1	2	2
343	04665	DDG	33	PARSONS	YOKSKA	4	1	09	39	4	2	2	1	3	2
344	04663	DDG	34	SOMERS	PEARL	4	1	09	39	4	2	2	1	4	2
345	20574	DD	963	SPRUANCE	NORVA	2	1	10	40	3	4	5	1	1	2
346	20575	DD	964	PAUL F FOSTER	SDGO	2	1	10	40	3	4	5	1	2	2
347	20576	DD	965	KINKAID	SDGO	2	1	10	40	3	4	5	1	2	2
348	20586	DD	966	HEWITT	SDGO	2	1	10	40	3	4	5	1	2	2
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351	20589	DD	969	PETERSON	NORVA	2	1	10	40	3	4	5	1	1	2
352	20590	DD	970	CARON	NORVA	2	1	10	40	3	4	5	1	1	2
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354	20598	DD	972	OLDENDORF	SDGO	2	1	10	40	3	4	5	1	2	2
355	20599	DD	973	JOHN YOUNG	SDGO	2	1	10	40	3	4	5	1	2	2
356	20601	DD	975	OBRIEN	SDGO	2	1	10	40	3	4	5	1	2	2
357	20602	DD	976	MERRILL	SDGO	2	1	10	40	3	4	5	1	2	2
358	20603	DD	977	BRISCOE	NORVA	2	1	10	40	3	4	5	1	1	2
359	20604	DD	978	STUMP	NORVA	2	1	10	40	3	4	5	1	1	2
360	20611	DD	979	CONOLLY	NORVA	2	1	10	40	3	4	5	1	1	2
361	04661	DD	945	HULL	SDGO	2	1	10	41	3	2	2	1	2	2
362	04662	DD	946	EDSON	BOSTON	2	1	10	41	3	2	2	2	1	1
363	04664	DD	948	MORTON	PEARL	4	1	10	41	3	2	2	1	4	2
364	04666	DD	950	RICHARD EDWARDS	PEARL	4	1	10	41	3	2	2	1	4	2
365	04667	DD	951	TURNER JOY	SDGO	2	1	10	41	3	2	2	1	2	2
366	52191	DD	931	FORREST SHERMAN	CHARLE	2	1	10	41	3	2	2	1	1	2
367	52193	DD	933	BARRY	BOSTON	2	1	10	41	3	2	2	1	1	2
368	52197	DD	937	DAVIS	CHARLE	2	1	10	41	3	2	2	1	1	2
369	52198	DD	938	JONAS INGRAM	CHARLE	2	1	10	41	3	2	2	1	1	2
370	52199	DD	940	MANLEY	MAYPRT	2	1	10	41	3	2	2	1	1	2
371	52200	DD	941	DUPONT	HOBOKN	2	1	10	41	3	2	2	1	1	2
372	52201	DD	942	BIGELOW	MAYPRT	2	1	10	41	3	2	2	1	1	2
373	52202	DD	943	BLANDY	NORVA	2	1	10	41	3	2	2	1	1	2
374	52203	DD	944	MULLINNIX	CHARLE	2	1	10	41	3	2	2	1	1	2
375	03818	DD	718	HAMNER	PT ORG	2	1	10	42	3	1	3	2	2	1
376	03843	DD	743	SOUTHERLAND	SDGO	2	1	10	42	3	1	3	2	2	1
377	03863	DD	763	WILLIAM C LAWE	ORLEAN	2	1	10	42	3	1	3	2	1	1
378	03884	DD	784	MCKEAN	SEATLE	2	1	10	42	3	1	3	2	2	1
379	03885	DD	785	HENDERSON	LNGBCH	2	1	10	42	3	1	3	2	2	1
380	03888	DD	788	HOLLISTER	LNGBCH	2	1	10	42	3	1	3	2	2	1
381	03906	DD	806	HIGBEE	SEATLE	2	1	10	42	3	1	3	2	2	1
382	52117	DD	817	CORRY	PHILA	2	1	10	42	3	1	3	2	1	1
383	52121	DD	821	JOHNSTON	PHILA	2	1	10	42	3	1	3	2	1	1
384	52122	DD	822	ROBERT H MCCARD	TAMPA	2	1	10	42	3	1	3	2	1	1
385	52126	DD	826	AGERHOLM	PAC	2	1	10	42	3	1	3	2	2	2
386	52129	DD	829	MYLES C FOX	N YORK	2	1	10	42	3	1	3	2	1	1
387	52135	DD	835	CHARLES P CECIL	NEWLON	2	1	10	42	3	1	3	2	1	1

388	52142	DD	842	FISKE	BAYONE	2	1	10	42	3	1	3	2	1	1
389	52162	DD	862	VOGELGESANG	NEWPRT	2	1	10	42	3	1	3	2	1	1
390	52163	DD	863	STEINAKER	BALTI	2	1	10	42	3	1	3	2	1	1
391	52164	DD	864	HAROLD J ELLISO	PHILA	2	1	10	42	3	1	3	2	1	1
392	52166	DD	866	CONE	CHARLE	2	1	10	42	3	1	3	2	1	1
393	52171	DD	871	DAMATO	NEWPRT	2	1	10	42	3	1	3	2	1	1
394	52173	DD	873	HAWKINS	PHILA	2	1	10	42	3	1	3	2	1	1
395	52176	DD	876	ROGERS	PT ORG	2	1	10	42	3	1	3	2	2	1
396	52180	DD	880	DYESS	N YORK	2	1	10	42	3	1	3	2	1	1
397	52183	DD	883	NEWMAN K PERRY	NEWPRT	2	1	10	42	3	1	3	2	1	1
398	52185	DD	885	JOHN R CRAIG	SDGO	2	1	10	42	3	1	3	2	2	1
399	52186	DD	886	ORLECK	TACOMA	2	1	10	42	3	1	3	2	2	1
400	52190	DD	890	MEREDITH	MAYPRT	2	1	10	42	3	1	3	2	1	1
401	52125	DD	825	CARPENTER	SFRAN	2	1	10	43	3	1	3	2	2	1
402	52127	DD	827	ROBERT A OWENS	PNCLA	2	1	10	43	3	1	3	2	1	1
403	04692	FFG	1	BROOKE	LNGBCH	2	1	11	44	3	3	3	1	2	2
404	04693	FFG	2	RAMSEY	SDGO	2	1	11	44	3	3	3	1	2	2
405	04694	FFG	3	SCHOFIELD	SDGO	2	1	11	44	3	3	3	1	2	2
406	04695	FFG	4	TALBOT	MAYPRT	2	1	11	44	3	3	3	1	1	2
407	04698	FFG	5	RICHARD L PAGE	PHILA	2	1	11	44	3	3	3	1	1	2
408	04699	FFG	6	JULIUS A FURER	CHARLE	2	1	11	44	3	3	3	1	1	2
409	21028	FFG	7	OLIVER H PERRY	MAYPRT	2	1	11	88	2	4	5	1	1	2
410	54047	FF	1052	KNOX	YOKSKA	4	1	12	45	3	3	2	1	3	2
411	54048	FF	1053	ROARK	SEATLE	2	1	12	45	3	3	2	1	2	2
412	54049	FF	1054	GRAY	SDGO	2	1	12	45	3	4	2	1	2	2
413	54050	FF	1055	HEPBURN	SDGO	2	1	12	45	3	3	2	1	2	2
414	54051	FF	1056	CONNOLE	NEWPRT	2	1	12	45	3	3	2	1	1	2
415	54052	FF	1057	RATHBURNE	PEARL	4	1	12	45	3	4	2	1	4	2
416	54053	FF	1058	MEYERKORD	SDGO	2	1	12	45	3	3	2	1	2	2
417	54054	FF	1059	W S SIMS	BATH	2	1	12	45	3	4	2	1	1	2
418	54055	FF	1060	LANG	SDGO	2	1	12	45	3	4	2	1	2	2
419	54056	FF	1061	PATTERSON	MAYPRT	2	1	12	45	3	4	2	1	1	2
420	54057	FF	1062	WHIPPLE	PEARL	4	1	12	45	3	4	2	1	4	2
421	54058	FF	1063	REASONER	SDGO	2	1	12	45	3	4	2	1	2	2
422	54059	FF	1064	LOCKWOOD	YOKSKA	4	1	12	45	3	4	2	1	3	2
423	54060	FF	1065	STEIN	SDGO	2	1	12	45	3	4	2	1	2	2
424	54061	FF	1066	MARVIN SHIELDS	SDGO	2	1	12	45	3	4	2	1	2	2
425	54062	FF	1067	FRANCIS HAMMOND	YOKSKA	4	1	12	45	3	4	2	1	3	2
426	54063	FF	1068	VREELAND	MAYPRT	2	1	12	45	3	4	2	1	1	2
427	54064	FF	1069	BAGLEY	SDGO	2	1	12	45	3	4	2	1	2	2
428	54065	FF	1070	DOWNES	SDGO	2	1	12	45	3	4	2	1	2	2
429	54066	FF	1071	BADGER	PEARL	4	1	12	45	3	4	2	1	4	2
430	54067	FF	1072	BLAKELY	BOSTON	2	1	12	45	3	4	2	1	1	2
431	54068	FF	1073	ROBERT E PEARY	PEARL	4	1	12	45	3	4	2	1	4	2
432	54069	FF	1074	HAROLD E HOLT	PEARL	4	1	12	45	3	4	2	1	4	2
433	54070	FF	1075	TRIPPE	BATH	2	1	12	45	3	4	2	1	1	2
434	54071	FF	1076	FANNING	SDGO	2	1	12	45	3	4	2	1	2	2
435	54072	FF	1077	OUELLET	PEARL	4	1	12	45	3	4	2	1	4	2

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436 20049 FF   1078 JOSEPH HEWES    CHARLE 2 1 12 45 3 4 2 1 1 2
437 20050 FF   1079 BOWEN           CHARLE 2 1 12 45 3 4 2 1 1 2
438 20051 FF   1080 PAUL            MAYPRT 2 1 12 45 3 4 2 1 1 2
439 20052 FF   1081 AYLWIN          CHARLE 2 1 12 45 3 4 2 1 1 2
440 20053 FF   1082 ELMER MONTGOMER MAYPRT 2 1 12 45 3 4 2 1 1 2
441 20054 FF   1083 COOK            SDGO   2 1 12 45 3 4 2 1 2 2
442 20055 FF   1084 MCCANDLESS      NORVA  2 1 12 45 3 4 2 1 1 2
443 20056 FF   1085 DONALD B BEARY  NORVA  2 1 12 45 3 4 2 1 1 2
444 20057 FF   1086 BREWTON         PEARL  4 1 12 45 3 4 2 1 4 2
445 20058 FF   1087 KIRK            YOKSKA 4 1 12 45 3 4 2 1 3 2
446 20066 FF   1088 BARBEY          SDGO   2 1 12 45 3 4 2 1 2 2
447 20067 FF   1089 JESSE L BROWN   CHARLE 2 1 12 45 3 4 2 1 1 2
448 20068 FF   1090 AINSWORTH       NORVA  2 1 12 45 3 4 2 1 1 2
449 20069 FF   1091 MILLER          NEWPRT 2 1 12 45 3 4 2 1 1 2
450 20070 FF   1092 THOMAS C HART   NORVA  2 1 12 45 3 4 2 1 1 2
451 20071 FF   1093 CAPODANNO       NEWPRT 2 1 12 45 3 4 2 1 1 2
452 20072 FF   1094 PHARRIS         NORVA  2 1 12 45 3 4 2 1 1 2
453 20073 FF   1095 TRUETT          NORVA  2 1 12 45 3 4 2 1 1 2
454 20074 FF   1096 VALDEZ          NEWPRT 2 1 12 45 3 4 2 1 1 2
455 20075 FF   1097 MOINESTER       N YCRK 2 1 12 45 3 4 2 1 1 2
456 17700 FF   1098 GLOVER          NORVA  2 1 12 47 3 3 2 1 1 2
457 54037 FF   1040 GARCIA          CHARLE 2 1 12 46 3 3 3 1 1 2
458 54038 FF   1041 BRADLEY         LNGBCH 2 1 12 46 3 3 3 1 2 2
459 54039 FF   1043 EDWARD MCDONNEL MAYPRT 2 1 12 46 3 3 3 1 1 2
460 54040 FF   1044 BRUMBY          CHARLE 2 1 12 46 3 3 3 1 1 2
461 54041 FF   1045 DAVIDSON        PEARL  4 1 12 46 3 3 3 1 4 2
462 54042 FF   1047 VOGE            MAYPRT 2 1 12 46 3 3 3 1 1 2
463 54043 FF   1048 SAMPLE          PEARL  4 1 12 46 3 3 3 1 4 2
464 54044 FF   1049 KOELSCH         MAYPRT 2 1 12 46 3 3 3 1 1 2
465 54045 FF   1050 ALBERT DAVID    SDGO   2 1 12 46 3 3 3 1 2 2
466 54046 FF   1051 OCALLAHAN       SDGC   2 1 12 46 3 3 3 1 2 2
467 54035 FF   1037 BRONSTEIN       SDGO   2 1 12 48 2 3 3 1 2 2
468 54036 FF   1038 MCCLOY          NORVA  2 1 12 48 2 3 3 1 1 2
469 20893 PHM     1 PEGASUS         L CRK  2 1 13 49 1 4 5 2 1 2
470 20085 PG     92 TACOMA          L CRK  2 1 14 50 1 3 5 2 1 2
471 20086 PG     93 WELCH           L CRK  2 1 14 50 1 3 5 2 1 2
472 05840 LCC    19 BLUE RIDGE      YOKSKA 4 5 15 51 7 4 3 2 3 2
473 20001 LCC    20 MOUNT WHITNEY   NORVA  2 5 15 51 7 4 3 2 1 2
474 20550 LHA     1 TARAWA          SDGC   2 5 16 52 7 4 2 1 2 2
475 20632 LHA     2 SAIPAN          NORVA  2 5 16 52 7 4 2 1 1 2
476 20633 LHA     3 BELLEAU WOOD    LNGBCH 2 5 16 52 7 4 2 1 2 2
477 07350 LPH     2 IWO JIMA        NORVA  2 5 17 53 7 3 3 1 1 2
478 07351 LPH     3 OKINAWA         SDGO   2 5 17 53 7 3 3 1 2 2
479 07352 LPH     7 GUADALCANAL     NORVA  2 5 17 53 7 3 3 1 1 2
480 07178 LPH     9 GUAM            PHILA  2 5 17 53 7 3 3 1 1 2
481 07198 LPH    10 TRIPOLI         SDGO   2 5 17 53 7 3 3 1 2 2
482 07202 LPH    11 NEW ORLEANS     SDGC   2 5 17 53 7 3 3 1 2 2
483 20009 LPH    12 INCHON          NORVA  2 5 17 53 7 4 3 1 1 2
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484	07170	LPD	1	RALEIGH	BALTI	2	5	18	55	5	3	3	1	1	2
485	07171	LPD	2	VANCOUVER	SDGO	2	5	18	55	5	3	3	1	2	2
486	07175	LPD	4	AUSTIN	NORVA	2	5	18	54	5	3	3	1	1	2
487	07176	LPD	5	OGDEN	SDGO	2	5	18	54	5	3	3	1	2	2
488	07177	LPD	6	DULUTH	SDGO	2	5	18	54	5	3	3	1	2	2
489	07181	LPD	7	CLEVELAND	SDGO	2	5	18	54	5	3	3	1	2	2
490	07182	LPD	8	DUBUQUE	SDGC	2	5	18	54	5	3	3	1	2	2
491	07183	LPD	9	DENVER	SDGO	2	5	18	54	5	3	3	1	2	2
492	07184	LPD	10	JUNEAU	SDGO	2	5	18	54	5	3	3	1	2	2
493	07194	LPD	11	CORONADO	NORVA	2	5	18	54	5	4	3	1	1	2
494	07195	LPD	12	SHREVEPORT	NORVA	2	5	18	54	5	4	3	1	1	2
495	07196	LPD	13	NASHVILLE	NORVA	2	5	18	54	5	4	3	1	1	2
496	07200	LPD	14	TRENTON	NORVA	2	5	18	54	5	4	3	1	1	2
497	07201	LPD	15	PONCE	NORVA	2	5	18	54	5	4	3	1	1	2
498	03128	LSD	28	THOMASTON	SDGC	2	5	19	57	4	2	3	2	2	2
499	03129	LSD	29	PLYMOUTH ROCK	L CRK	2	5	19	57	4	2	3	2	1	2
500	03130	LSD	30	FORT SNELLING	L CRK	2	5	19	57	4	2	3	2	1	2
501	03131	LSD	31	POINT DEFIANCE	SDGO	2	5	19	57	4	2	3	2	2	2
502	03132	LSD	32	SPIEGEL GROVE	L CRK	2	5	19	57	4	2	3	2	1	2
503	03133	LSD	33	ALAMO	SDGO	2	5	19	57	4	2	3	2	2	2
504	03134	LSD	34	HERMITAGE	L CRK	2	5	19	57	4	2	3	2	1	2
505	03135	LSD	35	MONTICELLO	PT ORG	2	5	19	57	4	2	3	2	2	2
506	C7203	LSD	36	ANCHORAGE	SDGC	2	5	19	56	4	3	3	2	2	2
507	20012	LSD	37	PORTLAND	CHESTE	2	5	19	56	4	4	3	2	1	2
508	20013	LSD	38	PENSACOLA	L CRK	2	5	19	56	4	4	3	2	1	2
509	20014	LSD	39	MOUNT VERNON	SDGO	2	5	19	56	4	4	3	2	2	2
510	20015	LSD	40	FORT FISHER	SDGO	2	5	19	56	4	4	3	2	2	2
511	20019	LST	1180	MANITOWOC	L CRK	2	5	20	58	4	4	4	2	1	2
512	20020	LST	1181	SUMTER	L CRK	2	5	20	58	4	4	4	2	1	2
513	20021	LST	1182	FRESNO	SDGO	2	5	20	58	4	4	4	2	2	2
514	20022	LST	1183	PEORIA	SDGO	2	5	20	58	4	3	4	2	2	2
515	20023	LST	1184	FREDERICK	SDGO	2	5	20	58	4	4	4	2	2	2
516	20024	LST	1185	SCHENECTADY	LNGBCH	2	5	20	58	4	4	4	2	2	2
517	20025	LST	1186	CAYUGA	LNGBCH	2	5	20	58	4	4	4	2	2	2
518	20026	LST	1187	TUSCALOOSA	SDGO	2	5	20	58	4	4	4	2	2	2
519	20027	LST	1188	SAGINAW	L CRK	2	5	20	58	4	4	4	2	1	2
520	20028	LST	1189	SAN BERNARDINO	SDGO	2	5	20	58	4	4	4	2	2	2
521	20029	LST	1190	BOULDER	L CRK	2	5	20	58	4	4	4	2	1	2
522	20030	LST	1191	RACINE	SDGC	2	5	20	58	4	4	4	2	2	2
523	20031	LST	1192	SPARTANBURG	L CRK	2	5	20	58	4	4	4	2	1	2
524	20032	LST	1193	FAIRFAX COUNTY	L CRK	2	5	20	58	4	4	4	2	1	2
525	20033	LST	1194	LA MOURE COUNTY	L CRK	2	5	20	58	4	4	4	2	1	2
526	20221	LST	1195	BARBOUR COUNTY	SDGO	2	5	20	58	4	4	4	2	2	2
527	20222	LST	1196	HARLAN COUNTY	L CRK	2	5	20	58	4	4	4	2	1	2
528	20223	LST	1197	BARNSTABLE CTY	L CRK	2	5	20	58	4	4	4	2	1	1
529	20224	LST	1198	BRISTOL COUNTY	SDGO	2	5	20	58	4	4	4	2	2	1
530	58179	LST	1179	NEWPORT	L CRK	2	5	20	58	4	3	4	2	1	2
531	08608	LKA	112	TULARE	SFRAN	2	5	21	60	3	2	3	2	2	2

532	05844	LKA	113	CHARLESTON	NORVA	2	5	21	59	3	3	3	2	1	2
533	05845	LKA	114	DURHAM	SDGO	2	5	21	59	3	3	3	2	2	2
534	05846	LKA	115	MOBILE	SDGO	2	5	21	59	3	3	3	2	2	2
535	05847	LKA	116	ST LOUIS	SDGO	2	5	21	59	3	3	3	2	2	2
536	20004	LKA	117	EL PASO	NORVA	2	5	21	59	3	4	3	2	1	2
537	01770	LPA	248	PAUL REVERE	LNGBCH	2	5	22	61	4	2	3	2	1	1
538	01771	LPA	249	FRANCIS MARION	NORVA	2	5	22	61	4	3	3	2	1	1
539	07957	MSO	427	CONSTANT	LNGBCH	2	6	23	63	1	2	4	2	2	1
540	07958	MSO	428	DASH	NEWPRT	2	6	23	63	1	2	4	2	1	1
541	07959	MSO	429	DETECTOR	NEWPRT	2	6	23	63	1	2	4	2	1	1
542	07960	MSO	430	DIRECT	CHARLE	2	6	23	63	1	2	4	2	1	1
543	07961	MSO	431	DOMINANT	PER AM	2	6	23	63	1	2	4	2	1	1
544	07963	MSO	433	ENGAGE	STPETE	2	6	23	63	1	2	4	2	1	1
545	07967	MSO	437	ENHANCE	SDGO	2	6	23	63	1	2	4	2	2	1
546	07968	MSO	438	ESTEEM	SEATLE	2	6	23	63	1	2	4	2	2	1
547	07969	MSO	439	EXCEL	SFRAN	2	6	23	63	1	2	4	2	2	1
548	07970	MSO	440	EXPLOIT	PORTLD	2	6	23	63	1	2	4	2	2	1
549	07971	MSO	441	EXULTANT	STPETE	2	6	23	63	1	2	4	2	1	1
550	07972	MSO	442	FEARLESS	CHARLE	2	6	23	63	1	2	4	2	1	1
551	07973	MSO	443	FIDELITY	PANFLA	2	6	23	63	1	2	4	2	1	2
552	07976	MSO	446	FORTIFY	L CRK	2	6	23	63	1	2	4	2	1	1
553	07978	MSO	448	ILLUSIVE	CHARLE	2	6	23	63	1	2	4	2	1	2
554	07979	MSO	449	IMPERVIOUS	MAYPRT	2	6	23	63	1	2	4	2	1	1
555	07985	MSO	455	IMPLICIT	TACOMA	2	6	23	63	1	2	4	2	2	1
556	07986	MSO	456	INFLICT	L CRK	2	6	23	63	1	2	4	2	1	1
557	07994	MSO	464	PLUCK	SDGO	2	6	23	63	1	2	4	2	2	1
558	08146	MSO	488	CONQUEST	SEATLE	2	6	23	63	1	2	4	2	2	1
559	08147	MSO	489	GALLANT	SFRAN	2	6	23	63	1	2	4	2	2	1
560	08148	MSO	490	LEADER	CHARLE	2	6	23	63	1	2	4	2	1	2
561	08150	MSO	492	PLEDGE	LNGBCH	2	6	23	63	1	2	4	2	2	1
562	08157	MSO	509	ADROIT	PTS NH	2	6	23	62	1	2	4	2	1	1
563	08159	MSO	511	AFFRAY	PORTLD	2	6	23	62	1	2	4	2	2	1
564	04618	AD	14	DIXIE	SDGO	2	2	24	66	7	1	3	1	2	2
565	04620	AD	15	PRAIRIE	SDGO	2	2	24	66	7	1	3	1	2	2
566	04637	AD	17	PIEDMONT	NORVA	2	2	24	66	7	1	3	1	1	2
567	04638	AD	18	SIERRA	MOBILE	2	2	24	66	7	1	3	1	1	2
568	04639	AD	19	YOSEMITE	MAYPRT	2	2	24	66	7	1	3	1	1	2
569	04644	AD	26	SHENANDOAH	NORVA	2	2	24	65	7	1	3	1	1	2
570	01720	AD	36	BRYCE CANYON	PEARL	5	2	24	65	7	2	3	1	4	2
571	04648	AD	37	SAMUEL GOMPERS	SDGO	2	2	24	64	8	3	3	1	2	2
572	05837	AD	38	PUGET SOUND	NORVA	2	2	24	64	8	3	3	1	1	2
573	08821	AE	21	SURIBACHI	EARLE	2	2	25	68	4	2	3	1	1	2
574	08822	AE	22	MAUNA KEA	VALLEJ	2	2	25	68	4	2	3	1	2	2
575	08391	AE	23	NITRO	EARLE	2	2	25	68	4	2	3	1	1	2
576	08392	AE	24	PYRO	CONCRD	2	2	25	68	4	2	3	1	2	2
577	08301	AE	25	HALEAKALA	CONCRD	2	2	25	68	4	2	3	1	2	2
578	05838	AE	26	KILAUEA	CONCRD	2	2	25	67	5	3	3	1	2	2
579	05839	AE	27	BUTTE	EARLE	2	2	25	67	5	3	3	1	1	2

580	20111	AE	28	SANTA BARBARA	CHARLE	2	2	25	67	4	4	3	1	1	2
581	20112	AE	29	MOUNT HOOD	CONCRD	2	2	25	67	4	4	3	1	2	2
582	20113	AE	32	FLINT	CONCRD	2	2	25	67	4	4	3	1	2	2
583	20114	AE	33	SHASTA	CONCRD	2	2	25	67	4	4	3	1	2	2
584	20115	AE	34	MOUNT BAKER	CHARLE	2	2	25	67	4	4	3	1	1	2
585	20245	AE	35	KISKA	CONCRD	2	2	25	67	4	4	3	1	2	2
586	05831	AFS	1	MARS	OAKLAN	2	2	26	69	5	3	3	2	2	2
587	74025	AFS	2	SYLVANIA	NORVA	2	2	26	69	5	3	3	2	1	2
588	05834	AFS	3	NIAGARA FALLS	ALAMED	2	2	26	69	5	3	3	2	2	2
589	05835	AFS	4	WHITE PLAINS	YOKSKA	4	2	26	69	5	3	3	2	3	2
590	05836	AFS	5	CONCORD	NORVA	2	2	26	69	5	3	3	2	1	2
591	20116	AFS	6	SAN DIEGO	NORVA	2	2	26	69	5	3	3	2	1	2
592	20118	AFS	7	SAN JOSE	ALAMED	2	2	26	69	5	4	3	2	2	2
593	03954	AG	153	COMPASS ISLAND	CHARLE	2	2	27	70	3	2	3	2	1	2
594	01936	AGDS	2	POINT LOMA	SDGO	2	2	28	71	2	2	3	2	2	2
595	07172	AGF	3	LA SALLE	NORVA	2	2	29	72	4	3	3	2	1	2
596	05832	AOE	1	SACRAMENTO	BREM	2	2	30	73	7	3	3	1	2	2
597	05833	AOE	2	CAMDEN	BREM	2	2	30	73	7	3	3	1	2	2
598	05848	AOE	3	SEATTLE	N YORK	2	2	30	73	7	3	3	1	1	2
599	20120	AOE	4	DETROIT	NORVA	2	2	30	73	7	4	3	1	1	2
600	05849	AOR	1	WICHITA	SFRAN	2	2	31	74	4	3	3	1	2	2
601	05850	AOR	2	MILWAUKEE	NORVA	2	2	31	74	4	3	3	1	1	2
602	20122	AOR	3	KANSAS CITY	SFRAN	2	2	31	74	4	4	3	1	2	2
603	20123	AOR	4	SAVANNAH	NORVA	2	2	31	74	4	4	3	1	1	2
604	20124	AOR	5	WABASH	SFRAN	2	2	31	74	4	4	3	1	2	2
605	20125	AOR	6	KALAMAZOO	NORVA	2	2	31	74	4	4	3	1	1	2
606	20248	AOR	7	ROANOKE	SFRAN	2	2	31	74	4	4	3	1	2	2
607	04951	AO	51	ASHTABULA	PEARL	4	2	32	75	4	1	3	2	4	2
608	04848	AO	98	CALOOSAHATCHEE	NORVA	2	2	32	75	4	1	3	2	1	2
609	04849	AO	99	CANISTEO	N YORK	2	2	32	75	4	1	3	2	1	2
610	05905	AO	145	HASSAYAMPA	PEARL	4	2	32	74	4	2	3	2	4	2
611	05906	AO	146	KAWISHIWI	PEARL	4	2	32	74	4	2	3	2	4	2
612	05907	AO	147	TRUCKEE	NORVA	2	2	32	74	4	2	3	2	1	2
613	05908	AO	148	PONCHATOULA	PEARL	4	2	32	74	4	2	3	2	4	2
614	08806	AR	6	AJAX	SDGO	2	2	33	76	7	1	3	2	2	2
615	08808	AR	5	VULCAN	NORVA	5	2	33	76	7	1	3	2	1	2
616	08809	AR	7	HECTOR	SFRAN	2	2	33	76	7	1	3	2	2	2
617	08810	AR	8	JASON	SDGO	2	2	33	76	7	1	3	2	2	2
618	02508	ARS	8	PRESERVER	L CRK	2	2	34	77	2	1	6	2	1	2
619	02523	ARS	23	DELIVER	PEARL	4	2	34	77	2	1	6	2	4	2
620	02525	ARS	25	SAFEGUARD	PEARL	4	2	34	77	2	1	6	2	4	2
621	02533	ARS	38	BOLSTER	PEARL	4	2	34	77	2	1	6	2	4	2
622	02534	ARS	39	CONSERVER	PEARL	4	2	34	77	2	1	6	2	4	2
623	02535	ARS	40	HOIST	L CRK	2	2	34	77	2	1	6	2	1	2
624	02536	ARS	41	OPPORTUNE	L CRK	2	2	34	77	2	1	6	2	1	2
625	02537	ARS	42	RECLAIMER	PEARL	4	2	34	77	2	1	6	2	4	2
626	02538	ARS	43	RECOVERY	L CRK	2	2	34	77	2	1	6	2	1	2
627	04619	AS	11	FULTON	NEWLON	5	2	35	81	8	1	3	1	1	2

628	04621	AS	12	SPERRY	SDGO	5	2	35	81	8	1	3	1	2	2
629	04626	AS	16	HOWARD W GILMOR	LAMADD	4	2	35	81	8	1	3	1	3	2
630	04628	AS	18	ORION	CHARLE	5	2	35	81	8	1	3	1	1	2
631	04629	AS	19	PROTEUS	AGANA	4	2	35	81	8	1	3	1	3	2
632	04689	AS	31	HUNLEY	AGANA	4	2	35	80	8	3	3	1	3	2
633	04696	AS	32	HOLLAND	H LOCH	4	2	35	80	8	3	3	1	3	2
634	04697	AS	33	SIMON LAKE	K BAY	5	2	35	79	7	3	3	1	1	2
635	04720	AS	34	CANOPUS	CHARLE	5	2	35	79	7	3	3	1	1	2
636	05851	AS	36	L Y SPEAR	NORVA	5	2	35	78	7	4	3	1	1	2
637	20132	AS	37	DIXON	SDGO	5	2	35	78	7	4	3	1	2	2
638	04709	ASR	9	FLORIKAN	SDGC	2	2	36	83	2	1	6	2	2	2
639	04712	ASR	13	KITTIWAKE	NORVA	2	2	36	83	2	1	6	2	1	2
640	04713	ASR	14	PETREL	CHARLE	2	2	36	83	2	1	6	2	1	2
641	04714	ASR	15	SUNBIRD	GROTON	2	2	36	83	2	1	6	2	1	2
642	20143	ASR	21	PIGEON	VALLEJ	2	2	36	82	2	4	4	2	2	2
643	20144	ASR	22	ORTOLAN	CHARLE	2	2	36	82	2	4	4	2	1	2
644	07105	ATF	105	MOCTOBI	EVERET	2	2	37	84	1	1	6	2	2	1
645	07110	ATF	110	QUAPAW	P HUEN	2	2	37	84	1	1	6	2	2	1
646	07113	ATF	113	TAKELMA	LNGBCH	2	2	37	84	1	1	6	2	2	2
647	07159	ATF	159	PAIUTE	MAYPRT	2	2	37	84	1	1	6	2	1	1
648	07160	ATF	160	PAPAGO	L CRK	2	2	37	84	1	1	6	2	1	1
649	07162	ATF	162	SHAKORI	L CRK	2	2	37	84	1	1	6	2	1	2
650	20151	ATS	1	EDENTON	L CRK	2	2	38	85	2	4	4	2	1	2
651	20153	ATS	2	BEAUFORT	PEARL	4	2	38	85	2	4	4	2	4	2
652	20154	ATS	3	BRUNSWICK	PEARL	4	2	38	85	2	4	4	2	4	2
653	01711	AVM	1	NORTON SOUND	P HUEN	2	2	39	86	7	1	3	2	2	2

```
//CARLMRG4 JOB (2987,0020),'CARL CARLSON',CLASS=F
//   EXEC FORTXCLG
//FORT.SYSIN DD *
      INTEGER ISHIP(20),IREC(20)
      REAL*8 A,B,SSN,UIC2
      COMMON A(20),B(20,20),SSN(2),UIC2(554,9)
C
      NCASE=0
C
CC          READ IN THE UIC CODES
C
      DO 10 I=1,554
   10 READ(5,20) (UIC2(I,J),J=1,9)
   20 FORMAT(A4,A5,6A8,A7)
C
CC         READ IN THE VERY FIRST  RECORD
C
      READ(1,50) A
   50 FORMAT(A1,A8,T17,12A1,A2,T62,A4,T78,A4,T87,A5,T95,A1,T111,A7)
      SSN(1)=A(1)
      SSN(2)=A(2)
      LAST=1
C
CC     SUBROUTINE RDREC  READS IN ALL THE RECORDS FOR ONE
CC    INDIVIDUAL.  THESE ARE PLACED IN THE MATRIX 'B'.
CC    THE FIRST RECORD OF THE NEXT PERSON IS SAVED IN VECTOR 'A'
CC    THE 'SSN' IS UPDATED TO THAT OF THE NEXT PERSON.
CC
CC    FOR THE LAST PERSON, LAST=2
C
  100 CONTINUE
      CALL RDREC(NREC,LAST)
C
CC         SUBROUTINE UIC CHECKS FOR SHIP UIC'S
CC
CC            NREC:  NUMBER OF RECORDS FOR ONE MAN
CC            NUIC:  NUMBER OF SHIP UIC'S
CC           NSHIP:  NUMBER OF SHIPS A MAN SERVED ON
CC
CC           ISHIP:  ARRAY CONTAINING INDEX OF THE MAN'S SHIP'S UIC
CC            IREC:  ARRAY CONTAINING RECORD NUMBER OF SHIPS
C
      CALL UIC(NREC,NUIC,NSHIP,ISHIP,IREC)
C
  200 CONTINUE
C
CC         IF THE MAN SERVED ON NO SHIP,
C          GO AROUND THE WRITE SUBROUTINE.
```

```
C
      IF(NSHIP.EQ.0) GO TO 220
      CALL SAVED(NREC,NSHIP,ISHIP,IREC)
      NCASE=NCASE+1
C
CC       IF THIS IS THE LAST CASE,
CC       BRANCH OUT OF THE READ/WRITE LOOP.
C
  220 IF(LAST.EQ.2) GO TO 250
      GO TO 100
C
  250 CONTINUE
      WRITE(6,260) NCASE
  260 FORMAT(1X'NUMBER OF CASES WRITTEN=',I7)
      STOP
      END
      SUBROUTINE RDREC(NREC,LAST)
      REAL*8 A,B,SSN,UIC2
      COMMON A(20),B(20,20),SSN(2),UIC2(554,9)
      DO 10 I=1,20
   10 B(1,I)=A(I)
      NREC=1
C
CC        READ IN A NEW LRECL
C
   40 READ(1,50,END=300) A
   50 FORMAT(A1,A8,T17,12A1,A2,T62,A4,T78,A4,T87,A5,T95,A1,T111,A7)
C
CC     COMPARE THE PREVIOUS SSN WITH THE NEW ONE.
C
      IF(SSN(1).EQ.A(1).AND.SSN(2).EQ.A(2)) GO TO 200
C
CC    WITHOUT THE MATCH, ALL ONE PERSON'S RECORDS HAVE
CC    BEEN READ IN.  SAVE THE NEW PERSON'S SSN AND RETURN
C
      SSN(1)=A(1)
      SSN(2)=A(2)
      RETURN
C
CC     ACCUMULATE ANOTHER RECORD OF INFORMATION FOR
CC     ONE PERSON IN MATRIX 'B'.
C
  200 CONTINUE
      NREC=NREC+1
      DO 220 I=1,20
  220 B(NREC,I)=A(I)
      GO TO 40
  300 LAST=2
```

```
      RETURN
      END
      SUBROUTINE UIC(NREC,NUIC,NSHIP,ISHIP,IREC)
      INTEGER*4 ISHIP(20),IREC(20)
      REAL*8 A,B,SSN,UIC2
      COMMON A(20),B(20,20),SSN(2),UIC2(554,9)
C
C           NREC:  NUMBER OF RECORDS FOR ONE MAN
C           NUIC:  NUMBER OF SHIP UIC'S
C          NSHIP:  NUMBER OF SHIPS A MAN SERVED ON
C
C          ISHIP:  ARRAY CONTAINING INDEX OF THE MAN'S SHIP'S UIC
C           IREC:  ARRAY CONTAINING RECORD NUMBER OF SHIPS
C
C             IJ:  INDEX THROUGH MAN'S RECORDS
C              I:  INDEX THROUGH SHIP UIC'S
C
      IJ=0
      NSHIP=0
      DO 30 I=1,20
      ISHIP(I)=0
   30 IREC(I)=0
C
   50 IJ=IJ+1
      IF(IJ.GT.NREC) RETURN
C
C        CHECK ALL SHIP UIC'S AGAIN THE UIC FROM ONE RECORD
C
      DO 100 I=1,554
       IF (B(IJ,18).EQ.UIC2(I,2)) GO TO 200
  100 CONTINUE
      GO TO 50
  200 CONTINUE
      NSHIP=NSHIP+1
      ISHIP(NSHIP)=I
C
C        IF THIS IS THE LAST RECORD,   RETURN
C
      IF(IJ.LT.NREC) GO TO 300
  250 IREC(NSHIP)=IJ
      RETURN
  300 CONTINUE
C
C        IS THE NEXT UIC THE SAME?
C
  310 IF(B(IJ,18).NE.B(IJ+1,18)) GO TO 350
      IJ=IJ+1
      IF(IJ.EQ.NREC) GO TO 250
```

```
C
CC          IF THE NEXT UIC IS THE SAME, CHECK THE NEXT ONE.
C
      GO TO 310
  350 CONTINUE
C
CC          STORE THE INDEX OF THE RECORD CONTAINING A SHIP UIC
C
      IREC(NSHIP)=IJ
      GO TO 50
      END
      SUBROUTINE SAVED(NREC,NSHIP,ISHIP,IREC)
      INTEGER*4 ISHIP(20),IREC(20)
      REAL*8 A,B,SSN,UIC2
      COMMON A(20),B(20,20),SSN(2),UIC2(554,9)
      DO 10 I=1,NSHIP
      WRITE(2,20) (B(IREC(I),J),J=1,20),(UIC2(ISHIP(I),J),J=1,9)
   20 FORMAT(A1,A8,12A1,A2,2A4,A5,A1,A7,1X,A4,A5,6A8,A7)
   10 CONTINUE
      RETURN
      END
//GO.FT01F001 DD UNIT=3400-6,VOL=SER=CARSTF,DISP=(OLD,PASS),
//   LABEL=(2,BLP,,IN),
//   DCB=(RECFM=FB,LRECL=120,BLKSIZE=32400,DEN=4)
//GO.FT02F001 DD UNIT=3330V,MSVGP=PUB4B,DISP=(OLD,KEEP),
//    DCB=(RECFM=FB,LRECL=109,BLKSIZE=12971),DSN=MSS.S2987.STF.UIC4
//GO.SYSIN DD *
100 30094 SSBN  598 G WASHINGTON GO PEARL  4 3 01 03 2 2 1 1 4 2
101 30093 SSBN  598 G WASHINGTON BL PEARL  4 3 01 03 2 2 1 1 4 2
102 30096 SSBN  599 P HENRY GOLD    PEARL  4 3 01 03 2 3 1 1 4 2
103 30095 SSBN  599 P HENRY BLUE    PEARL  4 3 01 03 2 3 1 1 4 2
104 30098 SSBN  600 T ROOSEVELT GOL BREM   4 3 01 03 2 3 1 1 2 2
105 30097 SSBN  600 T ROOSEVELT BLU BREM   4 3 01 03 2 3 1 1 2 2
106 30100 SSBN  601 R E LEE GOLD    PEARL  4 3 01 03 2 3 1 1 4 2
107 30099 SSBN  601 R E LEE BLUE    PEARL  4 3 01 03 2 3 1 1 4 2
108 30102 SSBN  602 A LINCOLN GOLD  BREM   4 3 01 03 2 3 1 1 2 2
109 30101 SSBN  602 A LINCOLN BLUE  BREM   4 3 01 03 2 3 1 1 2 2
110 30104 SSBN  608 E ALLEN GOLD    PEARL  4 3 01 02 2 3 1 1 4 2
C**********ADD OTHER SHIPS AS NECESSARY FROM APPENDIX E.*******
```

FORTRAN PROGRAM CARLMRG7: SCANS STF IDENTIFYING ATTRITIONS, ENTERING MONTH, LOSS MONTH AND UIC LOST FROM

```
//CARLMRG7 JOB (2987,0020),'CARL CARLSON',CLASS=F
//   EXEC FORTXCLG
//FORT.SYSIN DD *
      INTEGER ISHIP(20),IREC(20)
      REAL*8 A,B,SSN,UIC2
      COMMON A(5),B(20,5),SSN(2)
C
      NCASE=0
C
CC         READ IN THE VERY FIRST  RECORD
C
      READ(1,50) A
   50 FORMAT(A1,A8,T70,A4,T87,A5,T111,A4)
      SSN(1)=A(1)
      SSN(2)=A(2)
      LAST=1
C
CC     SUBROUTINE RDREC  READS IN ALL THE RECORDS FOR ONE
C     INDIVIDUAL.  THESE ARE PLACED IN THE MATRIX 'B'.
C     THE FIRST RECORD OF THE NEXT PERSON IS SAVED IN VECTOR 'A'
C     THE 'SSN' IS UPDATED TO THAT OF THE NEXT PERSON.
CC
C     FOR THE LAST PERSON, LAST=2
C
  100 CONTINUE
      CALL RDREC(NREC,LAST)
C     SUBROUTINE DEFINE IDENTIFIES  THE COHORT AND DETERMINES
C     IF AN ATTRITION OCCURRED. IT NOTES THE LAST MONTH TRACKED
C     OR IF AN ATTRITION OCCURRED WHEN IT OCCURRED. IT ALSO
C     CALCULATES THE NUMBER OF MONTHS TRACKED.
C     SAVES UIC ATTRITED FROM.
      CALL DEFINE(NREC,COHORT,ATTRIT,LMON,NMON,UIC)
  200 CONTINUE
      CALL SAVED(COHORT,ATTRIT,LMON,NMON,UIC)
      NCASE=NCASE+1
C
CC        IF THIS IS THE LAST CASE,
CC        BRANCH OUT OF THE READ/WRITE LOOP.
C
  220 IF(LAST.EQ.2) GO TO 250
      GO TO 100
C
  250 CONTINUE
      WRITE(6,260) NCASE
  260 FORMAT(1X'NUMBER OF CASES WRITTEN=',I7)
      STOP
      END
      SUBROUTINE RDREC(NREC,LAST)
```

```
      REAL*8 A,B,SSN,UIC2
      COMMON A(5),B(20,5),SSN(2)
      INTEGER I,J,K
      DO 10 I=1,5
   10 B(1,I)=A(I)
      NREC=1
C
CC         READ IN A NEW LRECL
C
   40 READ(1,50,END=300) A
   50 FORMAT(A1,A8,T70,A4,T87,A5,T111,A4)
C
CC      COMPARE THE PREVIOUS SSN WITH THE NEW ONE.
C
      IF(SSN(1).EQ.A(1).AND.SSN(2).EQ.A(2)) GO TO 200
C
CC     WITHOUT THE MATCH, ALL ONE PERSON'S RECORDS HAVE
CC     BEEN READ IN.  SAVE THE NEW PERSON'S SSN AND RETURN
C
      SSN(1)=A(1)
      SSN(2)=A(2)
      RETURN
C
CC      ACCUMULATE ANOTHER RECORD OF INFORMATION FOR
CC      ONE PERSON IN MATRIX 'B'.
C
  200 CONTINUE
      NREC=NREC+1
      DO 220 I=1,5
  220 B(NREC,I)=A(I)
      GO TO 40
  300 LAST=2
      RETURN
      END
      SUBROUTINE DEFINE(NREC,COHORT,ATTRIT,LMON,NMON,UIC)
      REAL*8 A,B,SSN,UIC2
      COMMON A(5),B(20,5),SSN(2)
      REAL*8 A1,A2,A3,A4,A5,A6,A7,A8,A9,A10,A11,A12,A13,A14,A15,A16,
     1A17,A18,A19,A20,A21,A22,A23,A24,A25,A26,A27,A28,A29,A30,A31,A32,
     1A33,A34,A35,A36,A37,A38,A39,A40,A41,A42,A43,A44,A45,A46,BLANK,
     1UIC
      DATA A1,A2,A3,A4,A5,A6,A7,A8,A9,A10,A11,A12,A13,A14,A15,A16,
     1A17,A18,A19,A20,A21,A22,A23,A24,A25,A26,A27,A28,A29,A30,A31,A32,
     1A33,A34,A35,A36,A37,A38,A39,A40,A41,A42,A43,A44,A45,A46,BLANK/
     1'7706','7707','7708',
     1'7709','7710','7711','7712','7801','7802','7803','7804','7805',
     1'7806','7807','7808','7809','7810','7811','7812','7901','7902',
     1'7903','7904','7905','7906','7907','7908','7909','7910','7911',
```

```
     1'7912','8001','8002','8003','8004','8005','8006','8007','8008',
     1'8009','8010','8011','8012','8101','8102','8103','    '/
      REAL*8 DATE/'0000'/
      INTEGER COHORT,ATTRIT,LMON,NMON,MONTH,I,J,K
      COHORT=50
C     I INDEXES THROUGH THE MANS RECORDS
      ATTRIT=7
      LMON=55
      NMON=60
      MONTH=00
      I=0
50    I=I+1
      IF(I.GT.NREC) RETURN
C     READ CURRENT ENLISTMENT DATE FOR THIS RECORD AND CONVERT
C     TO MONTH COUNT.
60    DATE=B(I,3)
70    IF(DATE.EQ.A1 )MONTH=1
      IF(DATE.EQ.A2 )MONTH=2
      IF(DATE.EQ.A3 )MONTH=3
      IF(DATE.EQ.A4 )MONTH=4
      IF(DATE.EQ.A5 )MONTH=5
      IF(DATE.EQ.A6 )MONTH=6
      IF(DATE.EQ.A7 )MONTH=7
      IF(DATE.EQ.A8 )MONTH=8
      IF(DATE.EQ.A9 )MONTH=9
      IF(DATE.EQ.A10)MONTH=10
      IF(DATE.EQ.A11)MONTH=11
      IF(DATE.EQ.A12)MONTH=12
      IF(DATE.EQ.A13)MONTH=13
      IF(DATE.EQ.A14)MONTH=14
      IF(DATE.EQ.A15)MONTH=15
      IF(DATE.EQ.A16)MONTH=16
      IF(DATE.EQ.A17)MONTH=17
      IF(DATE.EQ.A18)MONTH=18
      IF(DATE.EQ.A19)MONTH=19
      IF(DATE.EQ.A20)MONTH=20
      IF(DATE.EQ.A21)MONTH=21
      IF(DATE.EQ.A22)MONTH=22
      IF(DATE.EQ.A23)MONTH=23
      IF(DATE.EQ.A24)MONTH=24
      IF(DATE.EQ.A25)MONTH=25
      IF(DATE.EQ.A26)MONTH=26
      IF(DATE.EQ.A27)MONTH=27
      IF(DATE.EQ.A28)MONTH=28
      IF(DATE.EQ.A29)MONTH=29
      IF(DATE.EQ.A30)MONTH=30
      IF(DATE.EQ.A31)MONTH=31
      IF(DATE.EQ.A32)MONTH=32
```

```
      IF(DATE.EQ.A33)MONTH=33
      IF(DATE.EQ.A34)MONTH=34
      IF(DATE.EQ.A35)MONTH=35
      IF(DATE.EQ.A36)MONTH=36
      IF(DATE.EQ.A37)MONTH=37
      IF(DATE.EQ.A38)MONTH=38
      IF(DATE.EQ.A39)MONTH=39
      IF(DATE.EQ.A40)MONTH=40
      IF(DATE.EQ.A41)MONTH=41
      IF(DATE.EQ.A42)MONTH=42
      IF(DATE.EQ.A43)MONTH=43
      IF(DATE.EQ.A44)MONTH=44
      IF(DATE.EQ.A45)MONTH=45
      IF(DATE.EQ.A46)MONTH=46
      IF (ATTRIT.EQ.1)GO TO 100
C     IF THIS IS MAN'S FIRST RECORD DESIGNATE COHORT.
      IF (I.EQ.1) COHORT =MONTH
      LMON=MONTH
      NMON=(LMON-COHORT)+1
      UIC=B(I,4)
C     CHECK TO SEE IF MAN ATTRITED THIS MONTH
      IF(B(I,5).NE.BLANK)GO TO 90
      ATTRIT=0
      GO    50
90    AT    =1
      DAT   B(I,5)
      GC T
100   LMON  TH
      NMO   UN-COHORT)+1
      UIC B(I,4)
      RETURN
      END
      SUBROUTINE SAVED(COHORT,ATTRIT,LMON,NMON,UIC)
      REAL*8 UIC
      INTEGER COHORT,ATTRIT,LMON,NMON
      WRITE(2,20)COHORT,ATTRIT,LMON,NMON,UIC
20    FORMAT(1X,I2,1X,I1,1X,I2,1X,I2,1X,A5)
      RETURN
      END
//GO.FT01F001 DD UNIT=3400-6,VOL=SER=CARSTF,DISP=(OLD,PASS),
//   LABEL=(2,BLP,,IN),
//   DCB=(RECFM=FB,LRECL=120,BLKSIZE=32400,DEN=4)
//GO.FT02F001 DD UNIT=3330V,MSVGP=PUB4B,DISP=(OLD,KEEP),
//   DCB=(RECFM=FB,LRECL=17,BLKSIZE=6409),DSN=MSS.S2987.STF.COHRT3
```

FORTRAN PROGRAM CARLUIC: SORTS AND LABELS FILE
COHRT6 WITH SHIP DATA BANK INFORMATION

```
//CARLUIC JOB (2987,0020),'CARL CARLSON',CLASS=B
//   EXEC FORTXCLG
//FORT.SYSIN DD *
      REAL*8 A1,A2,A3,A4,A5,UIC2
      COMMON UIC2(554,9)
C
CC
CC          READ IN THE UIC CODES
C
      DO 80 I=1,554
   80 READ(5,75) (UIC2(I,J),J=1,9)
   75 FORMAT(A4,A5,6A8,A7)
      K=0
10    READ(1,20,END=300)A1,A2,A3,A4,A5
      K=K+1
20    FORMAT(1X,A2,1X,A1,1X,A2,1X,A2,1X,A5)
      DO 100 I=1,554
      IF(A5.EQ.UIC2(I,2)) GO TO 200
100   CONTINUE
      GO TO 10
200   WRITE(2,30)A1,A2,A3,A4,A5,(UIC2(I,J),J=1,9)
 30   FORMAT(1X,A2,1X,A1,1X,A2,1X,A2,1X,A5,1X,A4,A5,6A8,A7)
      GO TO 10
300   WRITE(6,50)K
 50   FORMAT(1X,'NUMBER OF RECORDS CHECKED=',1X,I6)
      STOP
      END
//GO.FT01F001 DD DISP=SHR,DSN=MSS.S2987.STF.COHRT3
//GO.FT02F001 DD UNIT=3330V,MSVGP=PUB4A,DISP=(NEW,CATLG),
//   DCB=(RECFM=FB,LRECL=82,BLKSIZE=6396),DSN=MSS.S2987.STF.COHRT6
//GO.SYSIN DD *
100 30094 SSBN  598 G WASHINGTON GO PEARL  4 3 01 03 2 2 1 1 4 2
101 30093 SSBN  598 G WASHINGTON BL PEARL  4 3 01 03 2 2 1 1 4 2
102 30096 SSBN  599 P HENRY GOLD    PEARL  4 3 01 03 2 3 1 1 4 2
103 30095 SSBN  599 P HENRY BLUE    PEARL  4 3 01 03 2 3 1 1 4 2
104 30098 SSBN  600 T ROOSEVELT GOL BREM   4 3 01 03 2 3 1 1 2 2
105 30097 SSBN  600 T ROOSEVELT BLU BREM   4 3 01 03 2 3 1 1 2 2
106 30100 SSBN  601 R E LEE GOLD    PEARL  4 3 01 03 2 3 1 1 4 2
107 30099 SSBN  601 R E LEE BLUE    PEARL  4 3 01 03 2 3 1 1 4 2
108 30102 SSBN  602 A LINCOLN GOLD  BREM   4 3 01 03 2 3 1 1 2 2
109 30101 SSBN  602 A LINCOLN BLUE  BREM   4 3 01 03 2 3 1 1 2 2
110 30104 SSBN  608 E ALLEN GOLD    PEARL  4 3 01 02 2 3 1 1 4 2
C*********ADD OTHER SHIPS AS NECESSARY FROM APPENDIX E.*********
```

APPENDIX I

FILE MSS.S2987.STF COHRT6 DESCRIPTION

Variable	Position	Field Width
COHORT (Month Began Current Enlistment)	2	2
ATTRIT (Attrition Indicator, Means Attrited)	5	1
LMON (Month Attrited)	7	2
NMON (Number of Months Tracked)	10	2
UIC (Unit Identification Code)	13	5
Count (Sequential Count Used to Keep Ships Ordered by Hull Number and Class)	19	3
UIC (Unit Identification Code)	23	5
Ship Type and Hull Number	29	9
Ship Name	39	17
Homeport	55	6
TAC (Type Activity Code)	62	1
Ship Type	64	1
Ship Class	66	2
Ship Sub-Class	69	2
Size (Personnel)	72	1
Age (Commissioning)	74	1
Engineering Plant	76	1
Nuclear Capable	78	1
Location	80	1
Active/NRF	82	1

APPENDIX J

FILE MSS.S2987.STF FUEL4 DESCRIPTION

Variable	Position	Field Width
Ship Type	2	4
Ship Hull Number	6	4
Period Year	11	2
Period Month	13	2
UIC (Unit Identification Code)	16	5
Hours Steaming Underway	22	3
Count (Sequential Count Used to Keep Ships Ordered by Hull Number and Class)	26	3
UIC (Unit Identification Code)	30	5
Ship Type and Hull Number	36	9
Ship Name	46	17
Homeport	62	6
TAC (Type Activity Code)	69	1
Ship Type	71	1
Ship Class	73	2
Ship Sub-Class	76	2
Size (Personnel)	79	1
Age (Commissioning)	81	1
Engineering Plant	83	1
Nuclear Capable	85	1
Location	87	1
Active/NRF	89	1

APPENDIX K

FORTRAN PROGRAM CARLFUEL: READS MASTER FILE FUELHR

FIELDS OF INTEREST

```
//CARLFUEL JOB (2987,0020),'C.CARLSON SMC1725',CLASS=B
//   EXEC FORTXCLG
//FORT.SYSIN DD *
      REAL*8 A1,A2,A3,A4
      INTEGER I
      I=0
    2 I=I+1
      READ(1,10,END=50) A1,A2,A3,A4
      WRITE(2,15)A1,A2,A3,A4
   10 FORMAT(A8,A4,A5,A3)
   15 FORMAT(1X,A8,1X,A4,1X,A5,1X,A3)
      GO TO 2
   50 WRITE(6,30)
   30 FORMAT(' THE PROGRAM IS COMPLETE')
      STOP
      END
//GO.FT01F001 DD DISP=SHR,DSN=MSS.S2987.FUELHR
//GO.FT02F001 DD UNIT=3330V,MSVGP=PUB4A,DISP=(OLD,KEEP),
//   DCB=(RECFM=FB,LRECL=24,BLKSIZE=6408),DSN=MSS.S2987.FUEL3
//
```

FORTRAN PROGRAM CARLFUEL1: SORTS AND LABELS FILE FUEL4

```
//CARFUEL1 JOB (2987,0020),'CARL CARLSON',CLASS=B
//   EXEC FORTXCLG
//FORT.SYSIN DD *
      REAL*8 A1,A2,A3,A4,A5,UIC2
      COMMON UIC2(554,9)
C
C
C           READ IN THE UIC CODES
C
      DO 80 I=1,554
   80 READ(5,75) (UIC2(I,J),J=1,9)
   75 FORMAT(A4,A5,6A8,A7)
      K=0
10    READ(1,20,END=300)A1,A2,A3,A4
      K=K+1
20    FORMAT(1X,A8,1X,A4,1X,A5,1X,A3)
      DO 100 I=1,554
      IF(A3.EQ.UIC2(I,2)) GO TO 200
100   CONTINUE
      GO TO 10
200   WRITE(2,30)A1,A2,A3,A4,(UIC2(I,J),J=1,9)
 30   FORMAT(1X,A8,1X,A4,1X,A5,1X,A3,1X,A4,A5,6A8,A7)
      GO TO 10
300   WRITE(6,50)K
 50   FORMAT(1X,'NUMBER OF RECORDS CHECKED=',1X,I6)
      STOP
      END
//GO.FT01F001 DD DISP=SHR,DSN=MSS.S2987.FUEL3
//GO.FT02F001 DD UNIT=3330V,MSVGP=PUB4A,DISP=(NEW,CATLG),
//   DCB=(RECFM=FB,LRECL=89,BLKSIZE=6408),DSN=MSS.S2987.FUEL4
//GO.SYSIN DD *
100  30094 SSBN  598 G WASHINGTON GO PEARL  4 3 01 03 2 2 1 1 4 2
101  30093 SSBN  598 G WASHINGTON BL PEARL  4 3 01 03 2 2 1 1 4 2
102  30096 SSBN  599 P HENRY GOLD    PEARL  4 3 01 03 2 3 1 1 4 2
103  30095 SSBN  599 P HENRY BLUE    PEARL  4 3 01 03 2 3 1 1 4 2
104  30098 SSBN  600 T ROOSEVELT GOL BREM   4 3 01 03 2 3 1 1 2 2
105  30097 SSBN  600 T ROOSEVELT BLU BREM   4 3 01 03 2 3 1 1 2 2
106  30100 SSBN  601 R E LEE GOLD    PEARL  4 3 01 03 2 3 1 1 4 2
107  30099 SSBN  601 R E LEE BLUE    PEARL  4 3 01 03 2 3 1 1 4 2
108  30102 SSBN  602 A LINCOLN GOLD  BREM   4 3 01 03 2 3 1 1 2 2
109  30101 SSBN  602 A LINCOLN BLUE  BREM   4 3 01 03 2 3 1 1 2 2
110  30104 SSBN  608 E ALLEN GOLD    PEARL  4 3 01 02 2 3 1 1 4 2
C**********ADD OTHER SHIPS AS NECESSARY FROM APPENDIX E.********
```

APPENDIX M

SAS PROGRAM CARLCHT3: COHORT SURVIVAL CURVE

```
//CARLCHT3 JOB (2987,00201),'C.G.CARLSON SMC1725',CLASS=A
//   EXEC SAS
//SYSIN DD *
DATA;
   INPUT  LMON 1-2 CUMATRT 4-8;
   CARDS;
 1 93610
 2 93586
 3 93523
 4 93263
 5 92010
 6 91068
 7 90037
 8 89145
 9 88001
10 86596
11 85516
12 84462
13 82972
14 81202
15 79532
16 78466
17 77502
18 76694
19 75971
20 75227
21 74460
22 73685
23 72851
24 72025
25 71335
26 70553
27 69747
28 69117
29 68442
30 67813
31 67347
32 66852
33 66345
34 65857
35 65339
36 64822
37 64295
38 63113
39 61920
40 60949
41 60018
42 55224
```

```
43 58736
PROC SORT;BY LMON;
PROC CHART;
  VBAR LMON/DISCRETE SUMVAR=CUMATRT;
```

APPENDIX N

SAS PROGRAM CARLCHT2: OVERALL COHORT ATTRITION BY MONTH

```
//CARLCHT2 JOB (2987,0020),'C.G.CARLSON SMC1725',CLASS=B
//   EXEC SAS
//DATAFILE DD DISP=SHR,DSNAME=MSS.S2987.STF.COHRT2
//SYSIN DD *
DATA;
   INFILE DATAFILE;
     INPUT COHORT 2-3 ATTRIT 5 LMON 7-8 NMON $ 10-11;
       IF LMON GE 1;
         IF LMCN GT 43 THEN DELETE;
           IF NMON='**' THEN NMON='00';
PROC SORT;BY LMON;BY ATTRIT;
PROC CHART;
  VBAR LMON/DISCRETE SUMVAR=ATTRIT;
PROC MEANS SUM;
   BY LMCN;
     VAR ATTRIT;
```

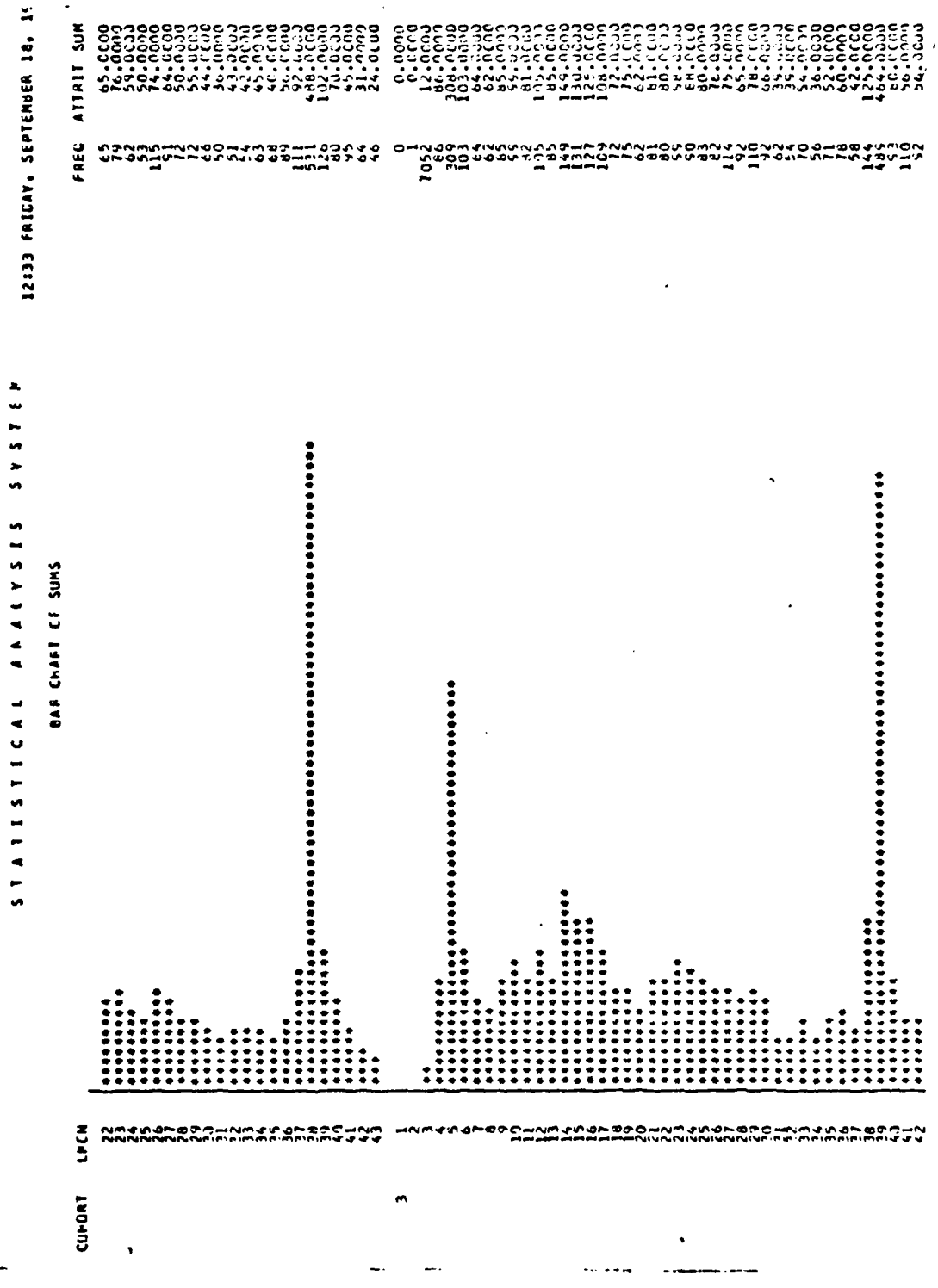
APPENDIX O

SAS PROGRAM CARLCHT4: COHORTS DISPLAYED OVER TIME

```
//CARLCHT4 JOB (2987,0020),'C.G.CARLSON SMC1725',CLASS=B
//   EXEC SAS
//DATAFILE DD DISP=SHR,DSNAME=MSS.S2987.STF.COHRT2
//SYSIN DD *
DATA;
   INFILE DATAFILE;
     INPJT COHORT 2-3 ATTRIT 5 LMON 7-8 NMCN $ 10-11;
       IF LMON GE 1;
       IF LMON GT 43 THEN DELETE;
       IF COHORT GE 1;
       IF COHORT GT 12 THEN DELETE;
       IF NMON='**' THEN NMON='00';
PROC SORT;BY LMON;BY ATTRIT;
PROC CHART;
  HBAR LMON/DISCRETE GROUP=COHORT SUMVAR=ATTRIT;
```

APPENDIX P

SAMPLE OUTPUT OF CARLCHT4: MONTHLY COHORTS DISPLAYED OVER TIME



S T A T I S T I C A L   A N A L Y S I S   S Y S T E M   12:33 FRIDAY, SEPTEMBER 18, 1

BAR CHART OF SUMS

COHORT	LPCN	FREQ	ATTRIT SUM
	43	45	22.0000
4	1	0	0.0000
	2	2	0.0000
	3	0	0.0000
	4	6759	72.0000
	5	660	658.0000
	6	299	299.0000
	7	87	87.0000
	8	66	65.0000
	9	71	71.0000
	10	90	90.0000
	11	85	85.0000
	12	75	74.0000
	13	122	121.0000
	14	100	99.0000
	15	141	141.0000
	16	95	94.0000
	17	102	101.0000
	18	83	83.0000
	19	86	86.0000
	20	84	84.0000
	21	92	92.0000
	22	90	89.0000
	23	75	72.0000
	24	93	91.0000
	25	72	70.0000
	26	73	69.0000
	27	92	87.0000
	28	113	76.0000
	29	123	82.0000
	30	83	63.0000
	31	72	44.0000
	32	67	46.0000
	33	56	39.0000
	34	63	46.0000
	35	67	50.0000
	36	64	46.0000
	37	73	56.0000
	38	62	49.0000
	39	159	144.0000
	40	445	428.0000
	41	160	108.0000
	42	102	57.0000
	43	43	21.0000
5	1	2	0.0000
	2	2	0.0000
	3	1	0.0000
	4	4	0.0000
	5	4210	32.0000
	6	170	169.0000
	7	137	137.0000
	8	54	54.0000
	9	78	77.0000
	10	73	73.0000
	11	51	51.0000
	12	65	65.0000
	13	79	79.0000
	14	66	66.0000
	15	86	86.0000
	16	78	78.0000
	17	55	54.0000
	18	67	64.0000
	19	61	61.0000

BAR CHART OF SUMS

COHORT	LPCN		FREQ	ATTRIT SUM
	20	*******	52	52.0000
	21	*******	53	53.0000
	22	********	59	59.0000
	23	******	48	47.0000
	24	******	45	45.0000
	25	*****	36	36.0000
	26	********	54	52.0000
	27	*******	57	56.0000
	28	*****	45	41.0000
	29	*****	62	37.0000
	30	*****	61	36.0000
	31	*****	57	39.0000
	32	*****	43	34.0000
	33	****	39	30.0000
	34	*****	51	38.0000
	35	***	33	26.0000
	36	****	44	27.0000
	37	***	32	21.0000
	38	******	52	42.0000
	39	******	47	42.0000
	40	********	68	58.0000
	41	**********	410	360.0000
	42	**********	105	83.0000
	43	*****	51	37.0000
6	1		1	0.0000
	2		0	0.0000
	3		0	0.0000
	4		0	0.0000
	5		3	0.0000
	6	**********	3664	84.0000
	7	**********	352	351.0000
	8	**********	144	142.0000
	9	*******	55	55.0000
	10	******	46	46.0000
	11	*****	40	39.0000
	12	*******	51	50.0000
	13	*********	65	65.0000
	14	*******	52	51.0000
	15	**********	89	88.0000
	16	*********	65	64.0000
	17	********	55	55.0000
	18	********	50	50.0000
	19	*****	36	36.0000
	20	******	43	42.0000
	21	******	47	47.0000
	22	******	42	42.0000
	23	********	49	49.0000
	24	******	43	42.0000
	25	******	45	45.0000
	26	******	43	43.0000
	27	*********	60	58.0000
	28	****	34	33.0000
	29	********	54	50.0000
	30	*******	57	43.0000
	31	***	37	25.0000
	32	***	31	23.0000
	33	***	25	19.0000
	34	***	36	29.0000
	35	****	34	27.0000
	36	***	36	26.0000
	37	***	28	20.0000
	38	***	41	21.0000
	39	*****	48	35.0000
	40	****	39	30.0000

BAR CHART OF SUMS

COHORT	LPCN		FREQ	ATTRIT SUM
	41	**********	119	88.0000
	42	**********	347	311.0000
	43	*******	68	54.0000
7	1		0	0.0000
	2		0	0.0000
	3		0	0.0000
	4		2	0.0000
	5		2	0.0000
	6		2	0.0000
	7	**********	2934	96.0000
	8	**********	246	246.0000
	9	**********	97	97.0000
	10	*********	66	66.0000
	11	*****	39	39.0000
	12	******	45	45.0000
	13	*****	36	35.0000
	14	******	43	43.0000
	15	**********	77	77.0000
	16	*******	52	52.0000
	17	******	44	43.0000
	18	*****	41	41.0000
	19	***	24	24.0000
	20	****	34	33.0000
	21	***	22	22.0000
	22	****	33	32.0000
	23	*****	35	35.0000
	24	*****	39	39.0000
	25	***	22	22.0000
	26	*****	42	39.0000
	27	****	30	25.0000
	28	*****	35	35.0000
	29	***	28	26.0000
	30	*****	39	35.0000
	31	***	33	24.0000
	32	***	33	21.0000
	33	****	44	33.0000
	34	**	30	15.0000
	35	*****	41	35.0000
	36	**	25	14.0000
	37	***	28	21.0000
	38	**	25	17.0000
	39	**	21	17.0000
	40	***	24	20.0000
	41	**	40	16.0000
	42	*******	70	55.0000
	43	**********	170	159.0000
8	1		0	0.0000
	2		0	0.0000
	3		0	0.0000
	4		0	0.0000
	5		1	0.0000
	6		3	0.0000
	7		3	0.0000
	8	**********	4608	93.0000
	9	**********	374	373.0000
	10	**********	166	165.0000
	11	******	48	48.0000
	12	*******	55	54.0000
	13	********	63	63.0000
	14	*********	70	69.0000
	15	**********	107	107.0000
	16	*********	66	65.0000
	17	********	64	62.0000

APPENDIX Q

SAS PROGRAM CARLFREQ: INDIVIDUAL SHIP ATTRITION SUMMARY

```
//CARLFREQ JOB (2987,0020),'C.G.CARLSON SMC1725',CLASS=B
//   EXEC SAS
//DATAFILE DD DISP=SHR,DSNAME=MSS.S2987.STF.UIC4
//SYSIN DD *
DATA;
   INFILE DATAFILE;
      INPUT UICSHIP $ 46-80  LCODE 42-43;
         IF LCODE=. THEN LCODE=0;
            IF LCODE NE 0 THEN LCODE=1;
PROC SORT;BY UICSHIP;BY LCODE;
PROC FREQ;
   TABLES UICSHIP*LCODE;
```

APPENDIX R

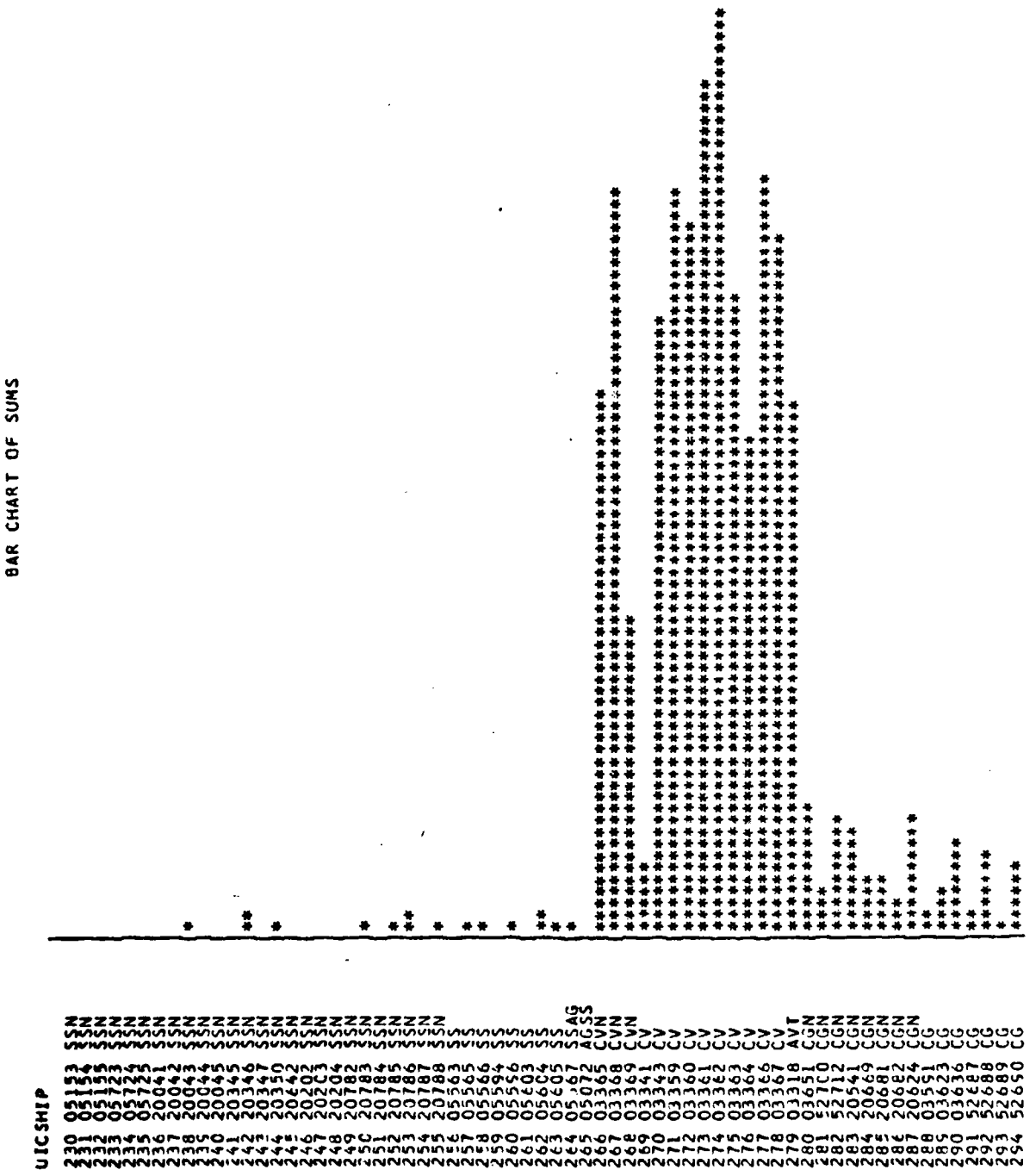
SAS PROGRAM CARLCHRT: GRAPH OF INDIVIDUAL SHIP

ATTRITION GROUPED BY CLASS

```
//CARLCHRT JOB (2987,0020),'C.G.CARLSON SMC1725',CLASS=B
//   EXEC SAS
//DATAFILE DD DISP=SHR,DSNAME=MSS.S2987.STF.UIC4
//SYSIN DD *
DATA;
   INFILE DATAFILE;
      INPUT UICSHIP $ 46-80 LCODE 42-43;
         IF LCODE=. THEN LCODE=0;
            IF LCODE NE 0 THEN LCODE=1;
PROC SORT;BY UICSHIP;BY LCODE;
PROC CHART;
   HBAR UICSHIP/ SUMVAR=LCODE;
```

APPENDIX S

SAMPLE OUTPUT OF CARLCHRT: GRAPH OF INDIVIDUALSHIP ATTRITION
GROUPED BY CLASS

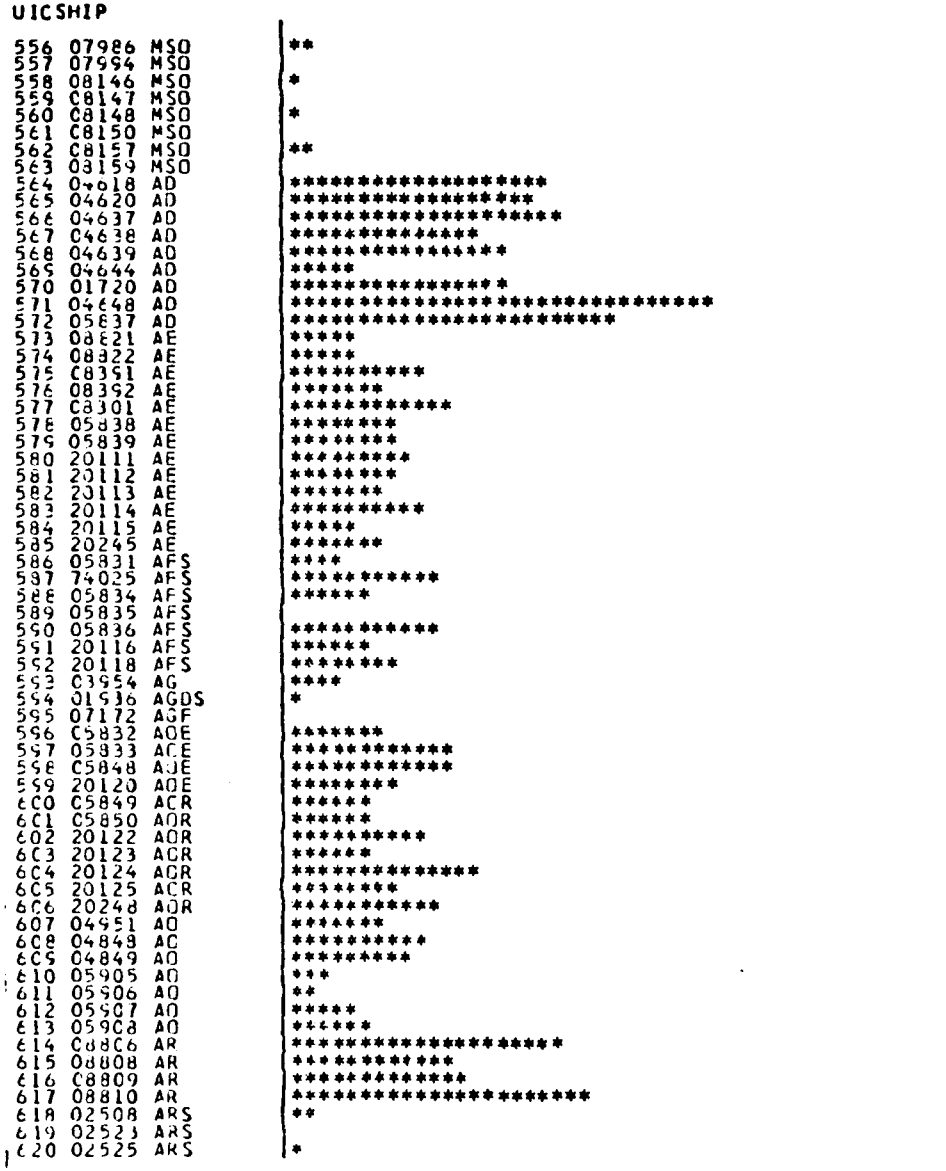


BAR CHART OF SUMS

UICSHIP

426	54063	FF	1	***
427	54064	FF	1	*
428	54065	FF	1	***
429	54066	FF	1	****
430	54067	FF	1	*******
431	54068	FF	1	****
432	54069	FF	1	**
433	54070	FF	1	****
434	54071	FF	1	***
435	54072	FF	1	*****
436	20049	FF	1	*****
437	20050	FF	1	****
438	20051	FF	1	***
439	20052	FF	1	*****
440	20053	FF	1	**
441	20054	FF	1	***
442	20055	FF	1	*****
443	20056	FF	1	***
444	20057	FF	1	**
445	20058	FF	1	*
446	20066	FF	1	**
447	20067	FF	1	***
448	20068	FF	1	**
449	20069	FF	1	*******
450	20070	FF	1	*
451	20071	FF	1	**
452	20072	FF	1	*****
453	20073	FF	1	******
454	20074	FF	1	***
455	20075	FF	1	****
456	17700	FF	1	****
457	54037	FF	1	*****
458	54038	FF	1	******
459	54039	FF	1	***
460	54040	FF	1	*
461	54041	FF	1	***
462	54042	FF	1	**
463	54043	FF	1	***
464	54044	FF	1	***
465	54045	FF	1	****
466	54046	FF	1	****
467	54035	FF	1	**
468	54036	FF	1	*****
469	20993	PHM		
470	20085	PG		
471	20086	PG		
472	05640	LCC		*****
473	20001	LCC		**********
474	20550	LHA		**********
475	20632	LHA		**********
476	20633	LHA		**********
477	07350	LPH		**********
478	07351	LPH		**********
479	07352	LPH		**********
480	07178	LPH		**********
481	07198	LPH		**********
482	07202	LPH		********
483	20009	LPH		**********
484	07170	LPD		**********
485	07171	LPD		*********
486	07175	LPD		********
487	07176	LPD		*********
488	07177	LPD		*******
489	07181	LPD		*****
490	07182	LPD		*********

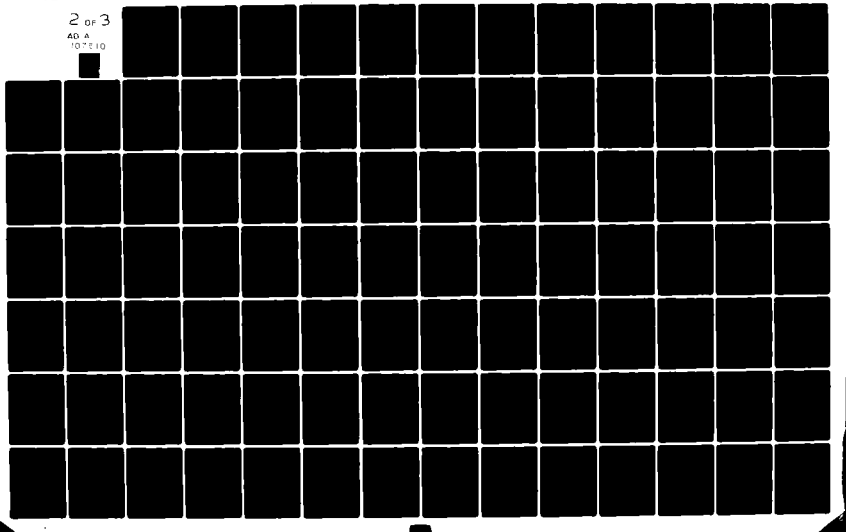
BAR CHART OF SUMS



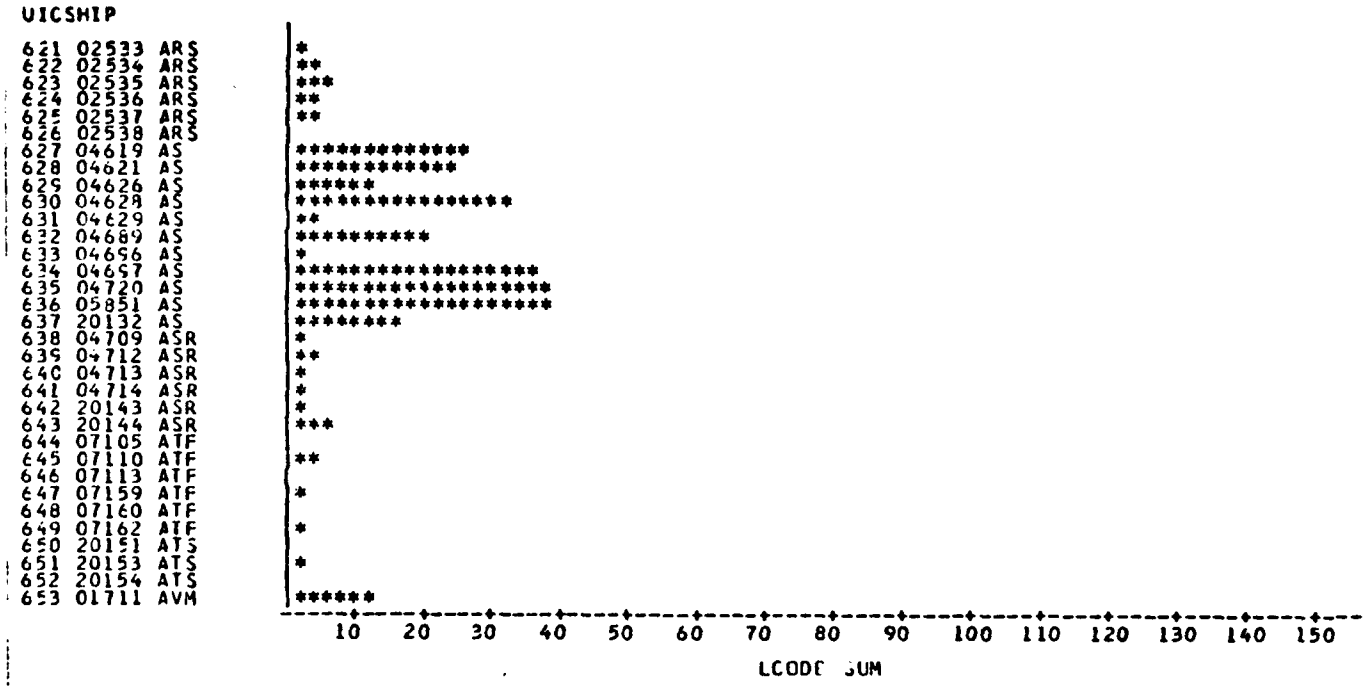
AD-A107 510 NAVAL POSTGRADUATE SCHOOL MONTEREY CA F/G 5/9
A DESCRIPTIVE ANALYSIS OF FIRST TERM ATTRITION FROM U.S. NAVAL --ETC(U)
SEP 81 C G CARLSON

UNCLASSIFIED NL

2 OF 3
AD A
107510



BAR CHART OF SUMS



APPENDIX T

CARLFREQ OUTPUT: INDIVIDUAL SHIP ATTRITON SUMMARY TABLE

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
100 30094 SSBN	31 0.05 100.00 0.06	0 0.00 0.00 0.00	31 0.05
101 30093 SSBN	32 0.05 96.97 0.06	1 0.00 3.03 0.02	33 0.05
102 30096 SSBN	42 0.07 97.67 0.08	1 0.00 2.33 0.02	43 0.07
103 30095 SSBN	37 0.06 100.00 0.07	0 0.00 0.00 0.00	37 0.06
104 30098 SSBN	5 0.01 100.00 0.01	0 0.00 0.00 0.00	5 0.01
105 30097 SSBN	26 0.04 100.00 0.05	0 0.00 0.00 0.00	26 0.04
106 30100 SSBN	39 0.06 100.00 0.07	0 0.00 0.00 0.00	39 0.06
107 30099 SSBN	51 0.08 98.08 0.09	1 0.00 1.92 0.02	52 0.09
108 30102 SSBN	17 0.03 100.00 0.03	0 0.00 0.00 0.00	17 0.03
109 30101 SSBN	34 0.06 100.00 0.06	0 0.00 0.00 0.00	34 0.06
110 30104 SSBN	29 0.05 96.67 0.05	1 0.00 3.33 0.02	30 0.05
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
111 30103 SSBN	55 0.09 100.00 0.10	0 0.00 0.00 0.00	55 0.09
112 30106 SSBN	44 0.07 100.00 0.08	0 0.00 0.00 0.00	44 0.07
113 30105 SSBN	52 0.09 100.00 0.09	0 0.00 0.00 0.00	52 0.09
114 30108 SSBN	31 0.05 100.00 0.06	0 0.00 0.00 0.00	31 0.05
115 30107 SSBN	51 0.08 100.00 0.09	0 0.00 0.00 0.00	51 0.08
116 30110 SSBN	34 0.06 97.14 0.06	1 0.00 2.86 0.02	35 0.06
117 30109 SSBN	37 0.06 100.00 0.07	0 0.00 0.00 0.00	37 0.06
118 30112 SSBN	45 0.07 97.83 0.08	1 0.00 2.17 0.02	46 0.08
119 30111 SSBN	41 0.07 100.00 0.07	0 0.00 0.00 0.00	41 0.07
120 30114 SSBN	39 0.06 100.00 0.07	0 0.00 0.00 0.00	39 0.06
121 30113 SSBN	44 0.07 97.78 0.08	1 0.00 2.22 0.02	45 0.07
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
122 30116 SSBN	38 0.06 97.44 0.07	1 0.00 2.56 0.02	39 0.06
123 30115 SSBN	44 0.07 100.00 0.08	0 0.00 0.00 0.00	44 0.07
124 30080 SSBN	32 0.05 100.00 0.06	0 0.00 0.00 0.00	32 0.05
125 30079 SSBN	45 0.07 100.00 0.08	0 0.00 0.00 0.00	45 0.07
126 30082 SSBN	30 0.05 100.00 0.05	0 0.00 0.00 0.00	30 0.05
127 30081 SSBN	48 0.08 100.00 0.09	0 0.00 0.00 0.00	48 0.08
128 30084 SSBN	42 0.07 100.00 0.08	0 0.00 0.00 0.00	42 0.07
129 30083 SSBN	37 0.06 97.37 0.07	1 0.00 2.63 0.02	38 0.06
130 30086 SSBN	36 0.06 97.30 0.06	1 0.00 2.70 0.02	37 0.06
131 30085 SSBN	35 0.06 100.00 0.06	0 0.00 0.00 0.00	35 0.06
132 30088 SSBN	46 0.08 95.83 0.08	2 0.00 4.17 0.04	48 0.08
TOTAL	55705 91.29	5313 8.71	61018 100.00

S T A T I S T I C A L A N A L Y S I S S Y S T E M

TABLE OF UICSHIP BY LCODE

UICSHIP / FREQUENCY / PERCENT / ROW PCT / COL PCT	LCODE 0	LCODE 1	TOTAL
133 30087 SSBN	39 0.06 100.00 0.07	0 0.00 0.00 0.00	39 0.06
134 30090 SSBN	30 0.05 93.75 0.05	2 0.00 6.25 0.04	32 0.05
135 30089 SSBN	38 0.06 100.00 0.07	0 0.00 0.00 0.00	38 0.06
136 30092 SSBN	37 0.06 94.87 0.07	2 0.00 5.13 0.04	39 0.06
137 30091 SSBN	41 0.07 97.62 0.07	1 0.00 2.38 0.02	42 0.07
138 30131 SSBN	30 0.05 100.00 0.05	0 0.00 0.00 0.00	30 0.05
139 30130 SSBN	39 0.06 100.00 0.07	0 0.00 0.00 0.00	39 0.06
140 30133 SSBN	42 0.07 100.00 0.08	0 0.00 0.00 0.00	42 0.07
141 30132 SSBN	46 0.08 100.00 0.08	0 0.00 0.00 0.00	46 0.08
142 30135 SSBN	38 0.06 97.44 0.07	1 0.00 2.56 0.02	39 0.06
143 30134 SSBN	32 0.05 100.00 0.06	0 0.00 0.00 0.00	32 0.05
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
144 30137 SSBN	47 0.08 100.00 0.08	0 0.00 0.00 0.00	47 0.08
145 30136 SSBN	48 0.08 100.00 0.09	0 0.00 0.00 0.00	48 0.08
146 30139 SSBN	52 0.09 96.30 0.09	2 0.00 3.70 0.04	54 0.09
147 30138 SSBN	47 0.08 100.00 0.08	0 0.00 0.00 0.00	47 0.08
148 30141 SSBN	26 0.04 100.00 0.05	0 0.00 0.00 0.00	26 0.04
149 30140 SSBN	42 0.07 97.67 0.08	1 0.00 2.33 0.02	43 0.07
150 30143 SSBN	33 0.05 100.00 0.06	0 0.00 0.00 0.00	33 0.05
151 30142 SSBN	50 0.08 100.00 0.09	0 0.00 0.00 0.00	50 0.08
152 30145 SSBN	51 0.08 100.00 0.09	0 0.00 0.00 0.00	51 0.08
153 30144 SSBN	41 0.07 97.62 0.07	1 0.00 2.38 0.02	42 0.07
154 30147 SSBN	55 0.09 94.83 0.10	3 0.00 5.17 0.06	58 0.10
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
155 30146 SSBN	47 0.08 100.00 0.08	0 0.00 0.00 0.00	47 0.08
156 30149 SSBN	52 0.09 100.00 0.09	0 0.00 0.00 0.00	52 0.09
157 30148 SSBN	44 0.07 100.00 0.08	0 0.00 0.00 0.00	44 0.07
158 30151 SSBN	40 0.07 100.00 0.07	0 0.00 0.00 0.00	40 0.07
159 30150 SSBN	40 0.07 95.24 0.07	2 0.00 4.76 0.04	42 0.07
160 30153 SSBN	43 0.07 100.00 0.08	0 0.00 0.00 0.00	43 0.07
161 30152 SSBN	41 0.07 100.00 0.07	0 0.00 0.00 0.00	41 0.07
162 30155 SSBN	36 0.06 92.31 0.06	3 0.00 7.69 0.06	39 0.06
163 30154 SSBN	44 0.07 100.00 0.08	0 0.00 0.00 0.00	44 0.07
164 30157 SSBN	43 0.07 100.00 0.08	0 0.00 0.00 0.00	43 0.07
165 30156 SSBN	42 0.07 100.00 0.08	0 0.00 0.00 0.00	42 0.07
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCCDE

UICSHIP / LCCDE	0	1	TOTAL
166 30159 SSBN	45 0.07 97.83 0.08	1 0.00 2.17 0.02	46 0.08
167 30158 SSBN	35 0.06 100.00 0.06	0 0.00 0.00 0.00	35 0.06
168 30161 SSBN	32 0.05 100.00 0.06	0 0.00 0.00 0.00	32 0.05
169 30160 SSBN	38 0.06 100.00 0.07	0 0.00 0.00 0.00	38 0.06
170 30163 SSBN	37 0.06 100.00 0.07	0 0.00 0.00 0.00	37 0.06
171 30162 SSBN	47 0.08 100.00 0.08	0 0.00 0.00 0.00	47 0.08
172 30165 SSBN	33 0.05 97.06 0.06	1 0.00 2.94 0.02	34 0.06
173 30164 SSBN	30 0.05 100.00 0.05	0 0.00 0.00 0.00	30 0.05
174 30167 SSBN	32 0.05 96.97 0.06	1 0.00 3.03 0.02	33 0.05
175 30166 SSBN	46 0.08 100.00 0.08	0 0.00 0.00 0.00	46 0.08
176 30169 SSBN	31 0.05 100.00 0.06	0 0.00 0.00 0.00	31 0.05
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE	0	1	TOTAL
177 30168 SSBN	33	1	34
	0.05	0.00	0.06
	97.06	2.94	
	0.06	0.02	
178 30171 SSBN	34	0	34
	0.06	0.00	0.06
	100.00	0.00	
	0.06	0.00	
179 30170 SSBN	38	1	39
	0.06	0.00	0.06
	97.44	2.56	
	0.07	0.02	
180 30173 SSBN	29	1	30
	0.05	0.00	0.05
	96.67	3.33	
	0.05	0.02	
181 30172 SSBN	42	0	42
	0.07	0.00	0.07
	100.00	0.00	
	0.08	0.00	
182 05591 SSN	27	0	27
	0.04	0.00	0.04
	100.00	0.00	
	0.05	0.00	
183 05595 SSN	34	0	34
	0.06	0.00	0.06
	100.00	0.00	
	0.06	0.00	
184 05597 SSN	31	1	32
	0.05	0.00	0.05
	96.88	3.13	
	0.06	0.02	
185 05598 SSN	45	1	46
	0.07	0.00	0.08
	97.83	2.17	
	0.08	0.02	
186 05608 SSN	30	1	31
	0.05	0.00	0.05
	96.77	3.23	
	0.05	0.02	
187 05607 SSN	35	2	37
	0.06	0.00	0.06
	94.59	5.41	
	0.06	0.04	
TOTAL	55705	5313	61018
	91.29	8.71	100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / FREQUENCY / PERCENT / ROW PCT / COL PCT	LCODE 0	LCODE 1	TOTAL
188 05606 SSN	31 0.05 100.00 0.06	0 0.00 0.00 0.00	31 0.05
189 05051 SSN	24 0.04 100.00 0.04	0 0.00 0.00 0.00	24 0.04
190 05053 SSN	26 0.04 100.00 0.05	0 0.00 0.00 0.00	26 0.04
191 05054 SSN	28 0.05 100.00 0.05	0 0.00 0.00 0.00	28 0.05
192 05055 SSN	29 0.05 100.00 0.05	0 0.00 0.00 0.00	29 0.05
193 05057 SSN	29 0.05 69.05 0.05	13 0.02 30.95 0.24	42 0.07
194 05058 SSN	39 0.06 97.50 0.07	1 0.00 2.50 0.02	40 0.07
195 05059 SSN	19 0.03 100.00 0.03	0 0.00 0.00 0.00	19 0.03
196 05060 SSN	18 0.03 100.00 0.03	0 0.00 0.00 0.00	18 0.03
197 05111 SSN	23 0.04 95.83 0.04	1 0.00 4.17 0.02	24 0.04
198 05112 SSN	33 0.05 97.06 0.06	1 0.00 2.94 0.02	34 0.06
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
199 05113 SSN	34 0.06 100.00 0.06	0 0.00 0.00 0.00	34 0.06
200 05114 SSN	39 0.06 100.00 0.07	0 0.00 0.00 0.00	39 0.06
201 05115 SSN	30 0.05 100.00 0.05	0 0.00 0.00 0.00	30 0.05
202 05120 SSN	43 0.07 100.00 0.08	0 0.00 0.00 0.00	43 0.07
203 05121 SSN	32 0.05 96.97 0.06	1 0.00 3.03 0.02	33 0.05
204 05122 SSN	30 0.05 100.00 0.05	0 0.00 0.00 0.00	30 0.05
205 05126 SSN	35 0.06 97.22 0.06	1 0.00 2.78 0.02	36 0.06
206 05127 SSN	32 0.05 96.97 0.06	1 0.00 3.03 0.02	33 0.05
207 05130 SSN	25 0.04 89.29 0.04	3 0.00 10.71 0.06	28 0.05
208 05131 SSN	36 0.06 100.00 0.06	0 0.00 0.00 0.00	36 0.06
209 05132 SSN	38 0.06 100.00 0.07	0 0.00 0.00 0.00	38 0.06
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
210 05133 SSN	26 0.04 100.00 0.05	0 0.00 0.00 0.00	26 0.04
211 05134 SSN	29 0.05 100.00 0.05	0 0.00 0.00 0.00	29 0.05
212 05135 SSN	29 0.05 96.67 0.05	1 0.00 3.33 0.02	30 0.05
213 05136 SSN	33 0.05 100.00 0.06	0 0.00 0.00 0.00	33 0.05
214 05137 SSN	43 0.07 100.00 0.08	0 0.00 0.00 0.00	43 0.07
215 05138 SSN	35 0.06 100.00 0.06	0 0.00 0.00 0.00	35 0.06
216 05139 SSN	31 0.05 96.88 0.06	1 0.00 3.13 0.02	32 0.05
217 05140 SSN	34 0.06 97.14 0.06	1 0.00 2.86 0.02	35 0.06
218 05141 SSN	25 0.04 92.59 0.04	2 0.00 7.41 0.04	27 0.04
219 05142 SSN	32 0.05 96.97 0.06	1 0.00 3.03 0.02	33 0.05
220 05143 SSN	31 0.05 100.00 0.06	0 0.00 0.00 0.00	31 0.05
TOTAL	55705 91.29	5313 8.71	61018 100.00

S T A T I S T I C A L A N A L Y S I S S Y S T E M

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
221 05144 SSN	31 0.05 100.00 0.06	0 0.00 0.00 0.00	31 0.05
222 05145 SSN	29 0.05 100.00 0.05	0 0.00 0.00 0.00	29 0.05
223 05147 SSN	38 0.06 100.00 0.07	0 0.00 0.00 0.00	38 0.06
224 05148 SSN	28 0.05 100.00 0.05	0 0.00 0.00 0.00	28 0.05
225 05149 SSN	36 0.06 100.00 0.06	0 0.00 0.00 0.00	36 0.06
226 05150 SSN	34 0.06 100.00 0.06	0 0.00 0.00 0.00	34 0.06
227 05151 SSN	29 0.05 100.00 0.05	0 0.00 0.00 0.00	29 0.05
228 05152 SSN	32 0.05 100.00 0.06	0 0.00 0.00 0.00	32 0.05
229 05146 SSN	34 0.06 100.00 0.06	0 0.00 0.00 0.00	34 0.06
230 05153 SSN	29 0.05 100.00 0.05	0 0.00 0.00 0.00	29 0.05
231 05154 SSN	39 0.06 100.00 0.07	0 0.00 0.00 0.00	39 0.06
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP	LCODE		
FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
232 05155 SSN	36 0.06 100.00 0.06	0 0.00 0.00 0.00	36 0.06
233 05723 SSN	30 0.05 100.00 0.05	0 0.00 0.00 0.00	30 0.05
234 05724 SSN	24 0.04 100.00 0.04	0 0.00 0.00 0.00	24 0.04
235 05725 SSN	28 0.05 100.00 0.05	0 0.00 0.00 0.00	28 0.05
236 20041 SSN	27 0.04 100.00 0.05	0 0.00 0.00 0.00	27 0.04
237 20042 SSN	36 0.06 100.00 0.06	0 0.00 0.00 0.00	36 0.06
238 20043 SSN	21 0.03 95.45 0.04	1 0.00 4.55 0.02	22 0.04
239 20044 SSN	35 0.06 100.00 0.06	0 0.00 0.00 0.00	35 0.06
240 20045 SSN	33 0.05 100.00 0.06	0 0.00 0.00 0.00	33 0.05
241 20345 SSN	23 0.04 100.00 0.04	0 0.00 0.00 0.00	23 0.04
242 20346 SSN	25 0.04 89.29 0.04	3 0.00 10.71 0.06	28 0.05
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
243 20347 SSN	22 0.04 100.00 0.04	0 0.00 0.00 0.00	22 0.04
244 20350 SSN	23 0.04 95.83 0.04	1 0.00 4.17 0.02	24 0.04
245 20642 SSN	35 0.06 100.00 0.06	0 0.00 0.00 0.00	35 0.06
246 20202 SSN	33 0.05 100.00 0.06	0 0.00 0.00 0.00	33 0.05
247 20203 SSN	42 0.07 100.00 0.08	0 0.00 0.00 0.00	42 0.07
248 20204 SSN	26 0.04 100.00 0.05	0 0.00 0.00 0.00	26 0.04
249 20782 SSN	36 0.06 100.00 0.06	0 0.00 0.00 0.00	36 0.06
250 20783 SSN	31 0.05 96.88 0.06	1 0.00 3.13 0.02	32 0.05
251 20784 SSN	42 0.07 100.00 0.08	0 0.00 0.00 0.00	42 0.07
252 20785 SSN	34 0.06 97.14 0.06	1 0.00 2.86 0.02	35 0.06
253 20786 SSN	41 0.07 93.18 0.07	3 0.00 6.82 0.06	44 0.07
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
254 20787 SSN	36 0.06 100.00 0.06	0 0.00 0.00 0.00	36 0.06
255 20788 SSN	35 0.06 97.22 0.06	1 0.00 2.78 0.02	36 0.06
256 05563 SS	14 0.02 100.00 0.03	0 0.00 0.00 0.00	14 0.02
257 05565 SS	16 0.03 94.12 0.03	1 0.00 5.88 0.02	17 0.03
258 05566 SS	15 0.02 93.75 0.03	1 0.00 6.25 0.02	16 0.03
259 05594 SS	18 0.03 100.00 0.03	0 0.00 0.00 0.00	18 0.03
260 05596 SS	25 0.04 96.15 0.04	1 0.00 3.85 0.02	26 0.04
261 05603 SS	22 0.04 100.00 0.04	0 0.00 0.00 0.00	22 0.04
262 05604 SS	22 0.04 88.00 0.04	3 0.00 12.00 0.06	25 0.04
263 05605 SS	24 0.04 96.00 0.04	1 0.00 4.00 0.02	25 0.04
264 05567 SSAG	19 0.03 95.00 0.03	1 0.00 5.00 0.02	20 0.03
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
265 05072 AGSS	3 0.00 100.00 0.01	0 0.00 0.00 0.00	3 0.00
266 03365 CVN	736 1.21 88.89 1.32	92 0.15 11.11 1.73	828 1.36
267 03368 CVN	984 1.61 88.65 1.77	126 0.21 11.35 2.37	1110 1.82
268 03369 CVN	775 1.27 93.60 1.39	53 0.09 6.40 1.00	828 1.36
269 03341 CV	912 1.49 98.81 1.64	11 0.02 1.19 0.21	923 1.51
270 03343 CV	714 1.17 87.39 1.28	103 0.17 12.61 1.94	817 1.34
271 03359 CV	902 1.48 87.74 1.62	126 0.21 12.26 2.37	1028 1.68
272 03360 CV	973 1.59 89.10 1.75	119 0.20 10.90 2.24	1092 1.79
273 03361 CV	832 1.36 85.25 1.49	144 0.24 14.75 2.71	976 1.60
274 03362 CV	913 1.50 85.49 1.64	155 0.25 14.51 2.92	1068 1.75
275 03363 CV	877 1.44 89.13 1.57	107 0.18 10.87 2.01	984 1.61
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
276 03364 CV	840 1.38 91.01 1.51	83 0.14 8.99 1.56	923 1.51
277 03366 CV	917 1.50 87.84 1.65	127 0.21 12.16 2.39	1044 1.71
278 03367 CV	776 1.27 86.80 1.39	118 0.19 13.20 2.22	894 1.47
279 03318 AVT	486 0.80 84.52 0.87	89 0.15 15.48 1.68	575 0.94
280 03651 CGN	229 0.38 91.24 0.41	22 0.04 8.76 0.41	251 0.41
281 52700 CGN	113 0.19 93.39 0.20	8 0.01 6.61 0.15	121 0.20
282 52712 CGN	176 0.29 90.26 0.32	19 0.03 9.74 0.36	195 0.32
283 20541 CGN	130 0.21 88.44 0.23	17 0.03 11.56 0.32	147 0.24
284 20669 CGN	158 0.26 94.05 0.28	10 0.02 5.95 0.19	168 0.28
285 20681 CGN	127 0.21 93.38 0.23	9 0.01 6.62 0.17	136 0.22
286 20682 CGN	102 0.17 94.44 0.18	6 0.01 5.56 0.11	108 0.18
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
287 20624 CGN	162 0.27 89.01 0.29	20 0.03 10.99 0.38	182 0.30
288 03591 CG	268 0.44 98.89 0.48	3 0.00 1.11 0.06	271 0.44
289 03623 CG	281 0.46 97.23 0.50	8 0.01 2.77 0.15	289 0.47
290 03636 CG	206 0.34 93.21 0.37	15 0.02 6.79 0.28	221 0.36
291 52687 CG	117 0.19 96.69 0.21	4 0.01 3.31 0.08	121 0.20
292 52688 CG	115 0.19 89.15 0.21	14 0.02 10.85 0.26	129 0.21
293 52689 CG	165 0.27 99.40 0.30	1 0.00 0.60 0.02	166 0.27
294 52690 CG	114 0.19 90.48 0.20	12 0.02 9.52 0.23	126 0.21
295 52691 CG	134 0.22 93.06 0.24	10 0.02 6.94 0.19	144 0.24
296 52692 CG	93 0.15 90.29 0.17	10 0.02 9.71 0.19	103 0.17
297 52693 CG	119 0.20 88.15 0.21	16 0.03 11.85 0.30	135 0.22
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
298 52698 CG	93 0.15 91.18 0.17	9 0.01 8.82 0.17	102 0.17
299 52699 CG	154 0.25 96.86 0.28	5 0.01 3.14 0.09	159 0.26
300 52702 CG	144 0.24 96.00 0.26	6 0.01 4.00 0.11	150 0.25
301 52703 CG	139 0.23 90.85 0.25	14 0.02 9.15 0.26	153 0.25
302 52704 CG	123 0.20 91.79 0.22	11 0.02 8.21 0.21	134 0.22
303 52705 CG	128 0.21 86.49 0.23	20 0.03 13.51 0.38	148 0.24
304 52706 CG	107 0.18 93.86 0.19	7 0.01 6.14 0.13	114 0.19
305 52707 CG	142 0.23 89.87 0.25	16 0.03 10.13 0.30	158 0.26
306 52708 CG	128 0.21 93.43 0.23	9 0.01 6.57 0.17	137 0.22
307 52709 CG	113 0.19 89.68 0.20	13 0.02 10.32 0.24	126 0.21
308 04668 DDG	101 0.17 88.60 0.18	13 0.02 11.40 0.24	114 0.19
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / FREQUENCY / PERCENT / ROW PCT / COL PCT	LCODE 0	LCODE 1	TOTAL
309 04669 DDG	109 0.18 91.60 0.20	10 0.02 8.40 0.19	119 0.20
310 04670 DDG	102 0.17 91.07 0.18	10 0.02 8.93 0.19	112 0.18
311 04671 DDG	109 0.18 89.34 0.20	13 0.02 10.66 0.24	122 0.20
312 04672 DDG	106 0.17 87.60 0.19	15 0.02 12.40 0.28	121 0.20
313 04673 DDG	100 0.16 89.29 0.18	12 0.02 10.71 0.23	112 0.18
314 04674 DDG	98 0.16 92.45 0.18	8 0.01 7.55 0.15	106 0.17
315 04675 DDG	95 0.16 89.62 0.17	11 0.02 10.38 0.21	106 0.17
316 04676 DDG	97 0.16 91.51 0.17	9 0.01 8.49 0.17	106 0.17
317 04677 DDG	106 0.17 93.81 0.19	7 0.01 6.19 0.13	113 0.19
318 04678 DDG	115 0.19 95.83 0.21	5 0.01 4.17 0.09	120 0.20
319 04679 DDG	89 0.15 91.75 0.16	8 0.01 8.25 0.15	97 0.16
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
320 04680 DDG	110 0.18 88.00 0.20	15 0.02 12.00 0.28	125 0.20
321 04681 DDG	94 0.15 94.95 0.17	5 0.01 5.05 0.09	99 0.16
322 04682 DDG	132 0.22 93.62 0.24	9 0.01 6.38 0.17	141 0.23
323 04683 DDG	99 0.16 95.19 0.18	5 0.01 4.81 0.09	104 0.17
324 04684 DDG	109 0.18 91.60 0.20	10 0.02 8.40 0.19	119 0.20
325 04685 DDG	103 0.17 88.03 0.18	14 0.02 11.97 0.26	117 0.19
326 04686 DDG	131 0.21 93.57 0.24	9 0.01 6.43 0.17	140 0.23
327 04687 DDG	123 0.20 93.18 0.22	9 0.01 6.82 0.17	132 0.22
328 04688 DDG	124 0.20 91.85 0.22	11 0.02 8.15 0.21	135 0.22
329 04690 DDG	89 0.15 95.70 0.16	4 0.01 4.30 0.08	93 0.15
330 04691 DDG	88 0.14 88.89 0.16	11 0.02 11.11 0.21	99 0.16
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
331 52231 DDG	152 0.25 94.41 0.27	9 0.01 5.59 0.17	161 0.26
332 52232 DDG	122 0.20 87.77 0.22	17 0.03 12.23 0.32	139 0.23
333 52233 DDG	99 0.16 88.39 0.18	13 0.02 11.61 0.24	112 0.18
334 52234 DDG	101 0.17 89.38 0.18	12 0.02 10.62 0.23	113 0.19
335 52235 DDG	112 0.18 94.12 0.20	7 0.01 5.88 0.13	119 0.20
336 52236 DDG	109 0.18 91.60 0.20	10 0.02 8.40 0.19	119 0.20
337 52683 DDG	116 0.19 92.80 0.21	9 0.01 7.20 0.17	125 0.20
338 52684 DDG	117 0.19 93.60 0.21	8 0.01 6.40 0.15	125 0.20
339 52685 DDG	113 0.19 88.98 0.20	14 0.02 11.02 0.26	127 0.21
340 52686 DDG	157 0.26 93.45 0.28	11 0.02 6.55 0.21	168 0.28
341 52196 DDG	88 0.14 88.00 0.16	12 0.02 12.00 0.23	100 0.16
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
342 52192 DDG	78 0.13 93.98 0.14	5 0.01 6.02 0.09	83 0.14
343 04665 DDG	142 0.23 98.61 0.25	2 0.00 1.39 0.04	144 0.24
344 04663 DDG	135 0.22 93.75 0.24	9 0.01 6.25 0.17	144 0.24
345 20574 DD	57 0.09 95.00 0.10	3 0.00 5.00 0.06	60 0.10
346 20575 DD	80 0.13 91.95 0.14	7 0.01 8.05 0.13	87 0.14
347 20576 DD	96 0.16 93.20 0.17	7 0.01 6.80 0.13	103 0.17
348 20586 DD	94 0.15 95.92 0.17	4 0.01 4.08 0.08	98 0.16
349 20587 DD	92 0.15 95.83 0.17	4 0.01 4.17 0.08	96 0.16
350 20588 DD	132 0.22 94.96 0.24	7 0.01 5.04 0.13	139 0.23
351 20589 DD	93 0.15 90.29 0.17	10 0.02 9.71 0.19	103 0.17
352 20590 DD	82 0.13 100.00 0.15	0 0.00 0.00 0.00	82 0.13
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
353 20591 DD	74 0.12 92.50 0.13	6 0.01 7.50 0.11	80 0.13
354 20598 DD	75 0.12 94.94 0.13	4 0.01 5.06 0.08	79 0.13
355 20599 DD	105 0.17 89.74 0.19	12 0.02 10.26 0.23	117 0.19
356 20601 DD	74 0.12 87.06 0.13	11 0.02 12.94 0.21	85 0.14
357 20602 DD	102 0.17 94.44 0.18	6 0.01 5.56 0.11	108 0.18
358 20603 DD	99 0.16 93.40 0.18	7 0.01 6.60 0.13	106 0.17
359 20604 DD	111 0.18 89.52 0.20	13 0.02 10.48 0.24	124 0.20
360 20611 DD	105 0.17 93.75 0.19	7 0.01 6.25 0.13	112 0.18
361 04661 DD	103 0.17 91.15 0.18	10 0.02 8.85 0.19	113 0.19
362 04662 DD	90 0.15 88.24 0.16	12 0.02 11.76 0.23	102 0.17
363 04664 DD	153 0.25 93.87 0.27	10 0.02 6.13 0.19	163 0.27
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
364 04666 DD	118 0.19 90.77 0.21	12 0.02 9.23 0.23	130 0.21
365 04667 DD	100 0.16 90.91 0.18	10 0.02 9.09 0.19	110 0.18
366 52191 DD	92 0.15 87.62 0.17	13 0.02 12.38 0.24	105 0.17
367 52193 DD	86 0.14 90.53 0.15	9 0.01 9.47 0.17	95 0.16
368 52197 DD	81 0.13 95.29 0.15	4 0.01 4.71 0.08	85 0.14
369 52198 DD	83 0.14 95.40 0.15	4 0.01 4.60 0.08	87 0.14
370 52199 DD	99 0.16 86.84 0.18	15 0.02 13.16 0.28	114 0.19
371 52200 DD	71 0.12 92.21 0.13	6 0.01 7.79 0.11	77 0.13
372 52201 DD	80 0.13 84.21 0.14	15 0.02 15.79 0.28	95 0.16
373 52202 DD	81 0.13 92.05 0.15	7 0.01 7.95 0.13	88 0.14
374 52203 DD	93 0.15 89.42 0.17	11 0.02 10.58 0.21	104 0.17
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
376 03843 DD	62 0.10 96.88 0.11	2 0.00 3.13 0.04	64 0.10
377 03863 DD	107 0.18 84.25 0.19	20 0.03 15.75 0.38	127 0.21
378 03884 DD	52 0.09 96.30 0.09	2 0.00 3.70 0.04	54 0.09
379 03885 DD	63 0.10 91.30 0.11	6 0.01 8.70 0.11	69 0.11
380 03888 DD	51 0.08 96.23 0.09	2 0.00 3.77 0.04	53 0.09
381 03906 DD	50 0.08 98.04 0.09	1 0.00 1.96 0.02	51 0.08
382 52117 DD	59 0.10 90.77 0.11	6 0.01 9.23 0.11	65 0.11
383 52121 DD	64 0.10 90.14 0.11	7 0.01 9.86 0.13	71 0.12
384 52122 DD	58 0.10 92.06 0.10	5 0.01 7.94 0.09	63 0.10
385 52126 DD	66 0.11 90.41 0.12	7 0.01 9.59 0.13	73 0.12
386 52129 DD	58 0.10 95.08 0.10	3 0.00 4.92 0.06	61 0.10
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
387 52135 DD	48 0.08 90.57 0.09	5 0.01 9.43 0.09	53 0.09
388 52142 DD	74 0.12 92.50 0.13	6 0.01 7.50 0.11	80 0.13
389 52162 DD	57 0.09 86.36 0.10	9 0.01 13.64 0.17	66 0.11
390 52163 DD	54 0.09 85.71 0.10	9 0.01 14.29 0.17	63 0.10
391 52164 DD	62 0.10 91.18 0.11	6 0.01 8.82 0.11	68 0.11
392 52166 DD	71 0.12 92.21 0.13	6 0.01 7.79 0.11	77 0.13
393 52171 DD	55 0.09 85.94 0.10	9 0.01 14.06 0.17	64 0.10
394 52173 DD	48 0.08 87.27 0.09	7 0.01 12.73 0.13	55 0.09
395 52176 DD	33 0.05 84.62 0.06	6 0.01 15.38 0.11	39 0.06
396 52180 DD	57 0.09 89.06 0.10	7 0.01 10.94 0.13	64 0.10
397 52183 DD	64 0.10 85.33 0.11	11 0.02 14.67 0.21	75 0.12
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
398 52185 DD	69 0.11 100.00 0.12	0 0.00 0.00 0.00	69 0.11
399 52186 DD	67 0.11 91.78 0.12	6 0.01 8.22 0.11	73 0.12
400 52190 DD	44 0.07 93.62 0.08	3 0.00 6.38 0.06	47 0.08
401 52125 DD	58 0.10 98.31 0.10	1 0.00 1.69 0.02	59 0.10
402 52127 DD	55 0.09 88.71 0.10	7 0.01 11.29 0.13	62 0.10
403 04692 FFG	61 0.10 92.42 0.11	5 0.01 7.58 0.09	66 0.11
404 04693 FFG	65 0.11 89.04 0.12	8 0.01 10.96 0.15	73 0.12
405 04694 FFG	62 0.10 95.38 0.11	3 0.00 4.62 0.06	65 0.11
406 04695 FFG	96 0.16 94.12 0.17	6 0.01 5.88 0.11	102 0.17
407 04698 FFG	69 0.11 92.00 0.12	6 0.01 8.00 0.11	75 0.12
408 04699 FFG	54 0.09 93.10 0.10	4 0.01 6.90 0.08	58 0.10
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
409 21028 FFG	58 0.10 90.63 0.10	6 0.01 9.38 0.11	64 0.10
410 54047 FF 1	72 0.12 98.63 0.13	1 0.00 1.37 0.02	73 0.12
411 54048 FF 1	94 0.15 86.24 0.17	15 0.02 13.76 0.28	109 0.18
412 54049 FF 1	81 0.13 96.43 0.15	3 0.00 3.57 0.06	84 0.14
413 54050 FF 1	86 0.14 92.47 0.15	7 0.01 7.53 0.13	93 0.15
414 54051 FF 1	76 0.12 87.36 0.14	11 0.02 12.64 0.21	87 0.14
415 54052 FF 1	118 0.19 92.91 0.21	9 0.01 7.09 0.17	127 0.21
416 54053 FF 1	81 0.13 96.43 0.15	3 0.00 3.57 0.06	84 0.14
417 54054 FF 1	85 0.14 90.43 0.15	9 0.01 9.57 0.17	94 0.15
418 54055 FF 1	71 0.12 84.52 0.13	13 0.02 15.48 0.24	84 0.14
419 54056 FF 1	72 0.12 90.00 0.13	8 0.01 10.00 0.15	80 0.13
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
420 54057 FF 1	63 0.10 94.03 0.11	4 0.01 5.97 0.08	67 0.11
421 54058 FF 1	77 0.13 95.06 0.14	4 0.01 4.94 0.08	81 0.13
422 54059 FF 1	84 0.14 100.00 0.15	0 0.00 0.00 0.00	84 0.14
423 54060 FF 1	67 0.11 82.72 0.12	14 0.02 17.28 0.26	81 0.13
424 54061 FF 1	82 0.13 92.13 0.15	7 0.01 7.87 0.13	89 0.15
425 54062 FF 1	52 0.09 100.00 0.09	0 0.00 0.00 0.00	52 0.09
426 54063 FF 1	70 0.11 92.11 0.13	6 0.01 7.89 0.11	76 0.12
427 54064 FF 1	97 0.16 98.98 0.17	1 0.00 1.02 0.02	98 0.16
428 54065 FF 1	80 0.13 93.02 0.14	6 0.01 6.98 0.11	86 0.14
429 54066 FF 1	99 0.16 93.40 0.18	7 0.01 6.60 0.13	106 0.17
430 54067 FF 1	69 0.11 83.13 0.12	14 0.02 16.87 0.26	83 0.14
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY / PERCENT / ROW PCT / COL PCT	0	1	TOTAL
431 54068 FF 1	85 0.14 91.40 0.15	8 0.01 8.60 0.15	93 0.15
432 54069 FF 1	91 0.15 95.79 0.16	4 0.01 4.21 0.08	95 0.16
433 54070 FF 1	70 0.11 90.91 0.13	7 0.01 9.09 0.13	77 0.13
434 54071 FF 1	96 0.16 95.05 0.17	5 0.01 4.95 0.09	101 0.17
435 54072 FF 1	96 0.16 91.43 0.17	9 0.01 8.57 0.17	105 0.17
436 20049 FF 1	79 0.13 89.77 0.14	9 0.01 10.23 0.17	88 0.14
437 20050 FF 1	73 0.12 91.25 0.13	7 0.01 8.75 0.13	80 0.13
438 20051 FF 1	65 0.11 92.86 0.12	5 0.01 7.14 0.09	70 0.11
439 20052 FF 1	66 0.11 86.84 0.12	10 0.02 13.16 0.19	76 0.12
440 20053 FF 1	88 0.14 95.65 0.16	4 0.01 4.35 0.08	92 0.15
441 20054 FF 1	78 0.13 92.86 0.14	6 0.01 7.14 0.11	84 0.14
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE	0	1	TOTAL
442 20055 FF 1	79 0.13 88.76 0.14	10 0.02 11.24 0.19	89 0.15
443 20056 FF 1	67 0.11 93.06 0.12	5 0.01 6.94 0.09	72 0.12
444 20057 FF 1	90 0.15 95.74 0.16	4 0.01 4.26 0.08	94 0.15
445 20058 FF 1	90 0.15 98.90 0.16	1 0.00 1.10 0.02	91 0.15
446 20066 FF 1	79 0.13 95.18 0.14	4 0.01 4.82 0.08	83 0.14
447 20067 FF 1	81 0.13 94.19 0.15	5 0.01 5.81 0.09	86 0.14
448 20068 FF 1	60 0.10 93.75 0.11	4 0.01 6.25 0.08	64 0.10
449 20069 FF 1	79 0.13 85.87 0.14	13 0.02 14.13 0.24	92 0.15
450 20070 FF 1	74 0.12 97.37 0.13	2 0.00 2.63 0.04	76 0.12
451 20071 FF 1	86 0.14 95.56 0.15	4 0.01 4.44 0.08	90 0.15
452 20072 FF 1	70 0.11 87.50 0.13	10 0.02 12.50 0.19	80 0.13
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP	LCODE		
FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
453 20073 FF 1	66 0.11 84.62 0.12	12 0.02 15.38 0.23	78 0.13
454 20074 FF 1	59 0.10 92.19 0.11	5 0.01 7.81 0.09	64 0.10
455 20075 FF 1	72 0.12 90.00 0.13	8 0.01 10.00 0.15	80 0.13
456 17700 FF 1	74 0.12 90.24 0.13	8 0.01 9.76 0.15	82 0.13
457 54037 FF 1	81 0.13 90.00 0.15	9 0.01 10.00 0.17	90 0.15
458 54038 FF 1	81 0.13 87.10 0.15	12 0.02 12.90 0.23	93 0.15
459 54039 FF 1	92 0.15 93.88 0.17	6 0.01 6.12 0.11	98 0.16
460 54040 FF 1	71 0.12 97.26 0.13	2 0.00 2.74 0.04	73 0.12
461 54041 FF 1	91 0.15 93.81 0.16	6 0.01 6.19 0.11	97 0.16
462 54042 FF 1	63 0.10 94.03 0.11	4 0.01 5.97 0.08	67 0.11
463 54043 FF 1	95 0.16 94.06 0.17	6 0.01 5.94 0.11	101 0.17
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
464 54044 FF 1	63 0.10 91.30 0.11	6 0.01 8.70 0.11	69 0.11
465 54045 FF 1	61 0.10 88.41 0.11	8 0.01 11.59 0.15	69 0.11
466 54046 FF 1	63 0.10 90.00 0.11	7 0.01 10.00 0.13	70 0.11
467 54035 FF 1	43 0.07 91.49 0.08	4 0.01 8.51 0.08	47 0.08
468 54036 FF 1	67 0.11 88.16 0.12	9 0.01 11.84 0.17	76 0.12
469 20893 PHM	3 0.00 100.00 0.01	0 0.00 0.00 0.00	3 0.00
470 20085 PG	5 0.01 100.00 0.01	0 0.00 0.00 0.00	5 0.01
471 20086 PG	4 0.01 100.00 0.01	0 0.00 0.00 0.00	4 0.01
472 05840 LCC	254 0.42 96.58 0.46	9 0.01 3.42 0.17	263 0.43
473 20001 LCC	220 0.36 89.80 0.39	25 0.04 10.20 0.47	245 0.40
474 20550 LHA	237 0.39 91.86 0.43	21 0.03 8.14 0.40	258 0.42
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCCDE

UICSHIP LCCDE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
475 20632 LHA	166 0.27 86.46 0.30	26 0.04 13.54 0.49	192 0.31
476 20633 LHA	352 0.58 94.12 0.63	22 0.04 5.88 0.41	374 0.61
477 07350 LPH	213 0.35 88.75 0.38	27 0.04 11.25 0.51	240 0.39
478 07351 LPH	195 0.32 88.64 0.35	25 0.04 11.36 0.47	220 0.36
479 07352 LPH	173 0.28 91.05 0.31	17 0.03 8.95 0.32	190 0.31
480 07178 LPH	186 0.30 90.29 0.33	20 0.03 9.71 0.38	206 0.34
481 07198 LPH	177 0.29 81.94 0.32	39 0.06 18.06 0.73	216 0.35
482 07202 LPH	182 0.30 91.92 0.33	16 0.03 8.08 0.30	198 0.32
483 20009 LPH	215 0.35 90.72 0.39	22 0.04 9.28 0.41	237 0.39
484 07170 LPD	104 0.17 83.20 0.19	21 0.03 16.80 0.40	125 0.20
485 07171 LPD	136 0.22 88.31 0.24	18 0.03 11.69 0.34	154 0.25
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
486 07175 LPD	117 0.19 87.97 0.21	16 0.03 12.03 0.30	133 0.22
487 07176 LPD	107 0.18 86.29 0.19	17 0.03 13.71 0.32	124 0.20
488 07177 LPD	117 0.19 90.00 0.21	13 0.02 10.00 0.24	130 0.21
489 07181 LPD	117 0.19 92.86 0.21	9 0.01 7.14 0.17	126 0.21
490 07182 LPD	162 0.27 90.50 0.29	17 0.03 9.50 0.32	179 0.29
491 07183 LPD	119 0.20 86.86 0.21	18 0.03 13.14 0.34	137 0.22
492 07184 LPD	104 0.17 92.86 0.19	8 0.01 7.14 0.15	112 0.18
493 07194 LPD	121 0.20 88.32 0.22	16 0.03 11.68 0.30	137 0.22
494 07195 LPD	117 0.19 88.64 0.21	15 0.02 11.36 0.28	132 0.22
495 07196 LPD	162 0.27 93.64 0.29	11 0.02 6.36 0.21	173 0.28
496 07200 LPD	127 0.21 85.81 0.23	21 0.03 14.19 0.40	148 0.24
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
497 07201 LPD	112 0.18 86.82 0.20	17 0.03 13.18 0.32	129 0.21
498 03128 LSD	98 0.16 84.48 0.18	18 0.03 15.52 0.34	116 0.19
499 03129 LSD	107 0.18 88.43 0.19	14 0.02 11.57 0.26	121 0.20
500 03130 LSD	95 0.16 82.61 0.17	20 0.03 17.39 0.38	115 0.19
501 03131 LSD	71 0.12 83.53 0.13	14 0.02 16.47 0.26	85 0.14
502 03132 LSD	93 0.15 92.08 0.17	8 0.01 7.92 0.15	101 0.17
503 03133 LSD	84 0.14 86.60 0.15	13 0.02 13.40 0.24	97 0.16
504 03134 LSD	105 0.17 78.95 0.19	28 0.05 21.05 0.53	133 0.22
505 03135 LSD	103 0.17 84.43 0.18	19 0.03 15.57 0.36	122 0.20
506 07203 LSD	102 0.17 89.47 0.18	12 0.02 10.53 0.23	114 0.19
507 20012 LSD	121 0.20 88.97 0.22	15 0.02 11.03 0.28	136 0.22
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
508 20013 LSD	107 0.18 93.86 0.19	7 0.01 6.14 0.13	114 0.19
509 20014 LSD	105 0.17 88.24 0.19	14 0.02 11.76 0.26	119 0.20
510 20015 LSD	100 0.16 95.24 0.18	5 0.01 4.76 0.09	105 0.17
511 20019 LST 1	61 0.10 92.42 0.11	5 0.01 7.58 0.09	66 0.11
512 20020 LST 1	81 0.13 88.04 0.15	11 0.02 11.96 0.21	92 0.15
513 20021 LST 1	67 0.11 97.10 0.12	2 0.00 2.90 0.04	69 0.11
514 20022 LST 1	64 0.10 92.75 0.11	5 0.01 7.25 0.09	69 0.11
515 20023 LST 1	66 0.11 83.54 0.12	13 0.02 16.46 0.24	79 0.13
516 20024 LST 1	56 0.09 86.15 0.10	9 0.01 13.85 0.17	65 0.11
517 20025 LST 1	62 0.10 83.78 0.11	12 0.02 16.22 0.23	74 0.12
518 20026 LST 1	68 0.11 88.31 0.12	9 0.01 11.69 0.17	77 0.13
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE	0	1	TOTAL
519 20027 LST 1	69 0.11 86.25 0.12	11 0.02 13.75 0.21	80 0.13
520 20028 LST 1	59 0.10 88.06 0.11	8 0.01 11.94 0.15	67 0.11
521 20029 LST 1	57 0.09 87.69 0.10	8 0.01 12.31 0.15	65 0.11
522 20030 LST 1	71 0.12 91.03 0.13	7 0.01 8.97 0.13	78 0.13
523 20031 LST 1	77 0.13 91.67 0.14	7 0.01 8.33 0.13	84 0.14
524 20032 LST 1	74 0.12 86.05 0.13	12 0.02 13.95 0.23	86 0.14
525 20033 LST 1	64 0.10 91.43 0.11	6 0.01 8.57 0.11	70 0.11
526 20221 LST 1	68 0.11 85.00 0.12	12 0.02 15.00 0.23	80 0.13
527 20222 LST 1	65 0.11 90.28 0.12	7 0.01 9.72 0.13	72 0.12
528 20223 LST 1	58 0.10 89.23 0.10	7 0.01 10.77 0.13	65 0.11
529 20224 LST 1	76 0.12 92.68 0.14	6 0.01 7.32 0.11	82 0.13
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
530 58179 LST 1	56 0.09 81.16 0.10	13 0.02 18.84 0.24	69 0.11
531 08608 LKA	77 0.13 95.06 0.14	4 0.01 4.94 0.08	81 0.13
532 05844 LKA	101 0.17 87.07 0.18	15 0.02 12.93 0.28	116 0.19
533 05845 LKA	94 0.15 90.38 0.17	10 0.02 9.62 0.19	104 0.17
534 05846 LKA	112 0.18 83.58 0.20	22 0.04 16.42 0.41	134 0.22
535 05847 LKA	81 0.13 83.51 0.15	16 0.03 16.49 0.30	97 0.16
536 20004 LKA	142 0.23 93.42 0.25	10 0.02 6.58 0.19	152 0.25
537 01770 LPA	61 0.10 96.83 0.11	2 0.00 3.17 0.04	63 0.10
538 01771 LPA	75 0.12 94.94 0.13	4 0.01 5.06 0.08	79 0.13
539 07957 MSO	13 0.02 100.00 0.02	0 0.00 0.00 0.00	13 0.02
540 07958 MSO	10 0.02 100.00 0.02	0 0.00 0.00 0.00	10 0.02
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
541 07959 MSO	11 0.02 100.00 0.02	0 0.00 0.00 0.00	11 0.02
542 07960 MSO	13 0.02 100.00 0.02	0 0.00 0.00 0.00	13 0.02
543 07961 MSO	14 0.02 100.00 0.03	0 0.00 0.00 0.00	14 0.02
544 07963 MSO	9 0.01 100.00 0.02	0 0.00 0.00 0.00	9 0.01
545 07967 MSO	9 0.01 100.00 0.02	0 0.00 0.00 0.00	9 0.01
546 07968 MSO	12 0.02 100.00 0.02	0 0.00 0.00 0.00	12 0.02
547 07969 MSO	13 0.02 86.67 0.02	2 0.00 13.33 0.04	15 0.02
548 07970 MSO	15 0.02 83.33 0.03	3 0.00 16.67 0.06	18 0.03
549 07971 MSO	11 0.02 100.00 0.02	0 0.00 0.00 0.00	11 0.02
550 07972 MSO	13 0.02 100.00 0.02	0 0.00 0.00 0.00	13 0.02
551 07973 MSO	19 0.03 90.48 0.03	2 0.00 9.52 0.04	21 0.03
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / FREQUENCY / PERCENT / ROW PCT / COL PCT	LCODE 0	LCODE 1	TOTAL
552 07976 MSO	9 0.01 81.82 0.02	2 0.00 18.18 0.04	11 0.02
553 07978 MSO	17 0.03 100.00 0.03	0 0.00 0.00 0.00	17 0.03
554 07979 MSO	8 0.01 100.00 0.01	0 0.00 0.00 0.00	8 0.01
555 07985 MSO	14 0.02 100.00 0.03	0 0.00 0.00 0.00	14 0.02
556 07986 MSO	7 0.01 70.00 0.01	3 0.00 30.00 0.06	10 0.02
557 07994 MSO	11 0.02 100.00 0.02	0 0.00 0.00 0.00	11 0.02
558 08146 MSO	11 0.02 91.67 0.02	1 0.00 8.33 0.02	12 0.02
559 08147 MSO	11 0.02 100.00 0.02	0 0.00 0.00 0.00	11 0.02
560 08148 MSO	21 0.03 91.30 0.04	2 0.00 8.70 0.04	23 0.04
561 08150 MSO	10 0.02 100.00 0.02	0 0.00 0.00 0.00	10 0.02
562 08157 MSO	15 0.02 83.33 0.03	3 0.00 16.67 0.06	18 0.03
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / FREQUENCY / PERCENT / ROW PCT / COL PCT	LCODE 0	LCODE 1	TOTAL
563 08159 MSO	11 0.02 100.00 0.02	0 0.00 0.00 0.00	11 0.02
564 04618 AD	236 0.39 86.13 0.42	38 0.06 13.87 0.72	274 0.45
565 04620 AD	245 0.40 87.50 0.44	35 0.06 12.50 0.66	280 0.46
566 04637 AD	247 0.40 86.06 0.44	40 0.07 13.94 0.75	287 0.47
567 04638 AD	239 0.39 89.51 0.43	28 0.05 10.49 0.53	267 0.44
568 04639 AD	238 0.39 88.15 0.43	32 0.05 11.85 0.60	270 0.44
569 04644 AD	154 0.25 93.90 0.28	10 0.02 6.10 0.19	164 0.27
570 01720 AD	221 0.36 87.70 0.40	31 0.05 12.30 0.58	252 0.41
571 04648 AD	340 0.56 84.79 0.61	61 0.10 15.21 1.15	401 0.66
572 05837 AD	362 0.59 88.29 0.65	48 0.08 11.71 0.90	410 0.67
573 08821 AE	134 0.22 93.06 0.24	10 0.02 6.94 0.19	144 0.24
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
574 08822 AE	108 0.18 92.31 0.19	9 0.01 7.69 0.17	117 0.19
575 08391 AE	129 0.21 87.16 0.23	19 0.03 12.84 0.36	148 0.24
576 08392 AE	95 0.16 87.16 0.17	14 0.02 12.84 0.26	109 0.18
577 08301 AE	118 0.19 83.10 0.21	24 0.04 16.90 0.45	142 0.23
578 05838 AE	84 0.14 84.00 0.15	16 0.03 16.00 0.30	100 0.16
579 05839 AE	119 0.20 88.81 0.21	15 0.02 11.19 0.28	134 0.22
580 20111 AE	132 0.22 88.00 0.24	18 0.03 12.00 0.34	150 0.25
581 20112 AE	131 0.21 89.12 0.24	16 0.03 10.88 0.30	147 0.24
582 20113 AE	116 0.19 89.92 0.21	13 0.02 10.08 0.24	129 0.21
583 20114 AE	121 0.20 86.43 0.22	19 0.03 13.57 0.36	140 0.23
584 20115 AE	105 0.17 91.30 0.19	10 0.02 8.70 0.19	115 0.19
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
585 20245 AE	108 0.18 89.26 0.19	13 0.02 10.74 0.24	121 0.20
586 05831 AFS	144 0.24 94.74 0.26	8 0.01 5.26 0.15	152 0.25
587 74025 AFS	147 0.24 86.98 0.26	22 0.04 13.02 0.41	169 0.28
588 05834 AFS	128 0.21 92.09 0.23	11 0.02 7.91 0.21	139 0.23
589 05835 AFS	125 0.20 100.00 0.22	0 0.00 0.00 0.00	125 0.20
590 05836 AFS	121 0.20 84.62 0.22	22 0.04 15.38 0.41	143 0.23
591 20116 AFS	131 0.21 92.25 0.24	11 0.02 7.75 0.21	142 0.23
592 20118 AFS	122 0.20 89.05 0.22	15 0.02 10.95 0.28	137 0.22
593 03954 AG	80 0.13 90.91 0.14	8 0.01 9.09 0.15	88 0.14
594 01936 AGDS	71 0.12 98.61 0.13	1 0.00 1.39 0.02	72 0.12
595 07172 AGF	264 0.43 100.00 0.47	0 0.00 0.00 0.00	264 0.43
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
596 05832 AOE	182 0.30 92.86 0.33	14 0.02 7.14 0.26	196 0.32
597 05833 AOE	225 0.37 90.73 0.40	23 0.04 9.27 0.43	248 0.41
598 05848 AOE	227 0.37 90.80 0.41	23 0.04 9.20 0.43	250 0.41
599 20120 AOE	159 0.26 91.38 0.29	15 0.02 8.62 0.28	174 0.29
600 05849 AOR	146 0.24 92.99 0.26	11 0.02 7.01 0.21	157 0.26
601 05850 AOR	128 0.21 92.09 0.23	11 0.02 7.91 0.21	139 0.23
602 20122 AOR	145 0.24 88.41 0.26	19 0.03 11.59 0.36	164 0.27
603 20123 AOR	142 0.23 92.21 0.25	12 0.02 7.79 0.23	154 0.25
604 20124 AOR	150 0.25 84.27 0.27	28 0.05 15.73 0.53	178 0.29
605 20125 AOR	128 0.21 89.51 0.23	15 0.02 10.49 0.28	143 0.23
606 20248 AOR	112 0.18 84.21 0.20	21 0.03 15.79 0.40	133 0.22
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
607 04951 AO	156 0.26 91.76 0.28	14 0.02 8.24 0.26	170 0.28
608 04848 AO	101 0.17 83.47 0.18	20 0.03 16.53 0.38	121 0.20
609 04849 AO	146 0.24 89.02 0.26	18 0.03 10.98 0.34	164 0.27
610 05905 AO	72 0.12 92.31 0.13	6 0.01 7.69 0.11	78 0.13
611 05906 AO	131 0.21 97.04 0.24	4 0.01 2.96 0.08	135 0.22
612 05907 AO	79 0.13 89.77 0.14	9 0.01 10.23 0.17	88 0.14
613 05908 AO	142 0.23 92.21 0.25	12 0.02 7.79 0.23	154 0.25
614 08806 AR	270 0.44 87.38 0.48	39 0.06 12.62 0.73	309 0.51
615 08808 AR	195 0.32 89.45 0.35	23 0.04 10.55 0.43	218 0.36
616 08809 AR	232 0.38 89.92 0.42	26 0.04 10.08 0.49	258 0.42
617 08810 AR	276 0.45 86.25 0.50	44 0.07 13.75 0.83	320 0.52
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
618 02508 ARS	17 0.03 85.00 0.03	3 0.00 15.00 0.06	20 0.03
619 02523 ARS	26 0.04 100.00 0.05	0 0.00 0.00 0.00	26 0.04
620 02525 ARS	18 0.03 90.00 0.03	2 0.00 10.00 0.04	20 0.03
621 02533 ARS	38 0.06 97.44 0.07	1 0.00 2.56 0.02	39 0.06
622 02534 ARS	34 0.06 91.89 0.06	3 0.00 8.11 0.06	37 0.06
623 02535 ARS	23 0.04 82.14 0.04	5 0.01 17.86 0.09	28 0.05
624 02536 ARS	26 0.04 89.66 0.05	3 0.00 10.34 0.06	29 0.05
625 02537 ARS	42 0.07 93.33 0.08	3 0.00 6.67 0.06	45 0.07
626 02538 ARS	41 0.07 100.00 0.07	0 0.00 .00 0.00	41 0.07
627 04619 AS	271 0.44 91.55 0.49	25 0.04 8.45 0.47	296 0.49
628 04621 AS	127 0.21 84.67 0.23	23 0.04 15.33 0.43	150 0.25
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
629 04626 AS	514 0.84 97.90 0.92	11 0.02 2.10 0.21	525 0.86
630 04628 AS	295 0.48 90.21 0.53	32 0.05 9.79 0.60	327 0.54
631 04629 AS	201 0.33 98.05 0.36	4 0.01 1.95 0.08	205 0.34
632 04689 AS	464 0.76 95.87 0.83	20 0.03 4.13 0.38	484 0.79
633 04696 AS	385 0.63 99.48 0.69	2 0.00 0.52 0.04	387 0.63
634 04697 AS	342 0.56 90.72 0.61	35 0.06 9.28 0.66	377 0.62
635 04720 AS	342 0.56 90.00 0.61	38 0.06 10.00 0.72	380 0.62
636 05851 AS	311 0.51 89.37 0.56	37 0.06 10.63 0.70	348 0.57
637 20132 AS	147 0.24 90.18 0.26	16 0.03 9.82 0.30	163 0.27
638 04709 ASR	26 0.04 96.30 0.05	1 0.00 3.70 0.02	27 0.04
639 04712 ASR	26 0.04 89.66 0.05	3 0.00 10.34 0.06	29 0.05
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
640 04713 ASR	29 0.05 93.55 0.05	2 0.00 6.45 0.04	31 0.05
641 04714 ASR	32 0.05 94.12 0.06	2 0.00 5.88 0.04	34 0.06
642 20143 ASR	45 0.07 97.83 0.08	1 0.00 2.17 0.02	46 0.08
643 20144 ASR	45 0.07 90.00 0.08	5 0.01 10.00 0.09	50 0.08
644 07105 ATF	9 0.01 100.00 0.02	0 0.00 0.00 0.00	9 0.01
645 07110 ATF	11 0.02 78.57 0.02	3 0.00 21.43 0.06	14 0.02
646 07113 ATF	21 0.03 100.00 0.04	0 0.00 0.00 0.00	21 0.03
647 07159 ATF	14 0.02 93.33 0.03	1 0.00 6.67 0.02	15 0.02
648 07160 ATF	15 0.02 100.00 0.03	0 0.00 0.00 0.00	15 0.02
649 07162 ATF	18 0.03 90.00 0.03	2 0.00 10.00 0.04	20 0.03
650 20151 ATS	31 0.05 100.00 0.06	0 0.00 0.00 0.00	31 0.05
TOTAL	55705 91.29	5313 8.71	61018 100.00

S T A T I S T I C A L A N A L Y S I S S Y S T E M

TABLE OF UICSHIP BY LCODE

UICSHIP / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
651 20153 ATS	33 0.05 97.06 0.06	1 0.00 2.94 0.02	34 0.06
652 20154 ATS	39 0.06 100.00 0.07	0 0.00 0.00 0.00	39 0.06
653 01711 AVM	84 0.14 87.50 0.15	12 0.02 12.50 0.23	96 0.16
TOTAL	55705 91.29	5313 8.71	61018 100.00

APPENDIX U
SHIP CLASS ATTRITION SUMMARY TABLE
TABLE OF CLASS BY LCODE

CLASS LCODE

FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
1	3207 5.26 98.89 5.76	36 0.06 1.11 0.68	3243 5.31
2	3 0.00 100.00 0.01	0 0.00 0.00 0.00	3 0.00
3	2336 3.83 98.15 4.19	44 0.07 1.85 0.83	2380 3.90
4	175 0.29 95.63 0.31	8 0.01 4.37 0.15	183 0.30
5	2495 4.09 90.20 4.48	271 0.44 9.80 5.10	2766 4.53
6	9142 14.98 88.55 16.41	1182 1.94 11.45 22.25	10324 16.92
7	1197 1.96 91.51 2.15	111 0.18 8.49 2.09	1308 2.14
8	2883 4.72 93.42 5.18	203 0.33 6.58 3.82	3086 5.06
9	4070 6.67 91.85 7.31	361 0.59 8.15 6.79	4431 7.26
10	4407 7.22 91.58 7.91	405 0.66 8.42 7.62	4812 7.89
TOTAL	55705 91.29	5313 8.71	61018 100.00

TABLE OF CLASS BY LCODE

CLASS / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
11	465 0.76 92.45 0.83	38 0.06 7.55 0.72	503 0.82
12	4560 7.47 92.12 8.19	390 0.64 7.88 7.34	4950 8.11
13	3 0.00 100.00 0.01	0 0.00 0.00 0.00	3 0.00
14	9 0.01 100.00 0.02	0 0.00 0.00 0.00	9 0.01
15	474 0.78 93.31 0.85	34 0.06 6.69 0.64	508 0.83
16	755 1.24 91.63 1.36	69 0.11 8.37 1.30	824 1.35
17	1341 2.20 88.98 2.41	166 0.27 11.02 3.12	1507 2.47
18	1722 2.82 88.81 3.09	217 0.36 11.19 4.08	1939 3.18
19	1291 2.12 87.35 2.32	187 0.31 12.65 3.52	1478 2.42
20	1319 2.16 88.58 2.37	170 0.28 11.42 3.20	1489 2.44
TOTAL	55705 91.29	5313 8.71	61018 100.00

S T A T I S T I C A L A N A L Y S I S S Y S T E M

TABLE OF CLASS BY LCODE

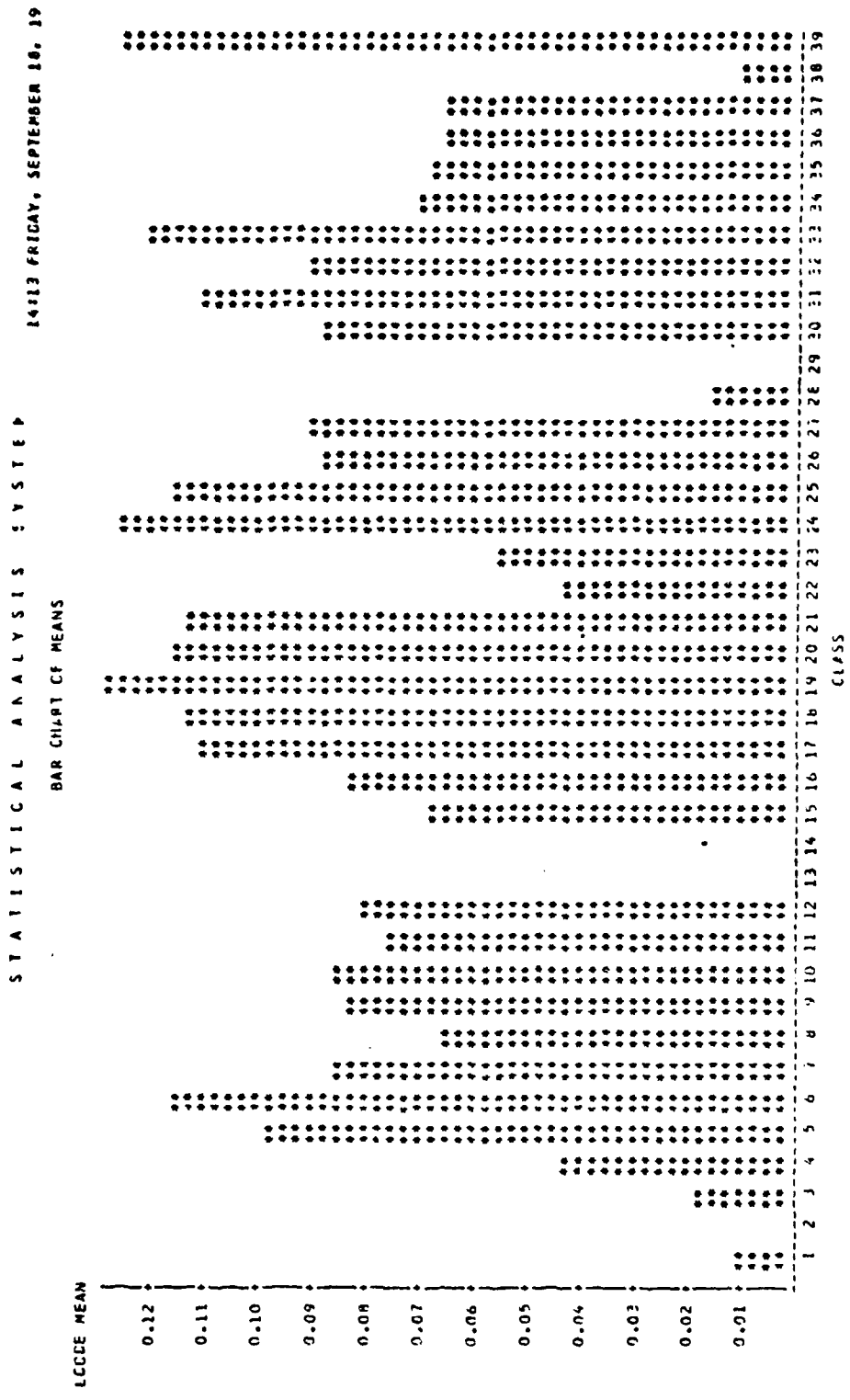
CLASS / FREQUENCY / PERCENT / ROW PCT / COL PCT	LCODE 0	LCODE 1	TOTAL
21	607 0.99 88.74 1.09	77 0.13 11.26 1.45	684 1.12
22	136 0.22 95.77 0.24	6 0.01 4.23 0.11	142 0.23
23	307 0.50 94.46 0.55	18 0.03 5.54 0.34	325 0.53
24	2282 3.74 87.60 4.10	323 0.53 12.40 6.08	2605 4.27
25	1500 2.46 88.44 2.69	196 0.32 11.56 3.69	1696 2.78
26	918 1.50 91.16 1.65	89 0.15 8.84 1.68	1007 1.65
27	80 0.13 90.91 0.14	8 0.01 9.09 0.15	88 0.14
28	71 0.12 98.61 0.13	1 0.00 1.39 0.02	72 0.12
29	264 0.43 100.00 0.47	0 0.00 0.00 0.00	264 0.43
30	793 1.30 91.36 1.42	75 0.12 8.64 1.41	868 1.42
TOTAL	55705 91.29	5313 8.71	61019 100.00

S T A T I S T I C A L A N A L Y S I S S Y S T E M

TABLE OF CLASS BY LCODE

CLASS / LCODE FREQUENCY PERCENT ROW PCT COL PCT	0	1	TOTAL
31	951 1.56 89.04 1.71	117 0.19 10.96 2.20	1068 1.75
32	827 1.36 90.88 1.48	83 0.14 9.12 1.56	910 1.49
33	973 1.59 88.05 1.75	132 0.22 11.95 2.48	1105 1.81
34	265 0.43 92.98 0.48	20 0.03 7.02 0.38	285 0.47
35	3399 5.57 93.33 6.10	243 0.40 6.67 4.57	3642 5.97
36	203 0.33 93.55 0.36	14 0.02 6.45 0.26	217 0.36
37	88 0.14 93.62 0.16	6 0.01 6.38 0.11	94 0.15
38	103 0.17 99.04 0.18	1 0.00 0.96 0.02	104 0.17
39	84 0.14 87.50 0.15	12 0.02 12.50 0.23	96 0.16
TOTAL	55705 91.29	5313 8.71	61018 100.00

APPENDIX V
SHIP CLASS ATTRITION PERCENTAGE BAR GRAPH



APPENDIX W

SAS PROGRAM CARLDAT2: ANOVA AND DUNCAN TESTS

ON CLASS ATTRITION PERCENTAGES

```
//CARLDAT2 JOB (2987,00201),'C.G.CARLSON SMC1725',CLASS=B
//   EXEC SAS
//DATAFILE DD DISP=SHR,DSNAME=MSS.S2987.STF.UIC4
//SYSIN DD *
DATA MODSTF;
   INFILE DATAFILE;
      INPUT UICSHIP $ 46-80 LDACODE 38-44 TYPE 93-94;
         IF LDACODE=. THEN LDACODE=0;
            IF LDACODE NE 0 THEN LDACODE=1;
               IF TYPE=2 OR TYPE=4 OR TYPE=11 OR TYPE=13 THEN DELETE;
                  IF TYPE=14 OR TYPE=15 OR TYPE=22 OR TYPE=23 THEN DELETE;
                     IF TYPE=27 OR TYPE=28 OR TYPE=29 OR TYPE=36 THEN DELETE;
                        IF TYPE=37 OR TYPE=38 OR TYPE=39 THEN DELETE;
PROC SORT DATA=MODSTF;BY UICSHIP;
PROC SUMMARY DATA=MODSTF;
   CLASS UICSHIP;
      VAR LDACODE TYPE;
         OUTPUT OUT=BYUIC
            MEAN(TYPE)=TYPE
            N(LDACODE)=ASSIGN
            SUM(LDACODE)=ATTRIT;
DATA BYUIC;
   SET BYUIC;
      IF TYPE=0 THEN DELETE;
         PERCENT=ATTRIT/ASSIGN;
            TPERCENT=(SQRT(ASSIGN))*(ARSIN((2*PERCENT)-1));
PROC ANCVA DATA=BYUIC;
   CLASSES TYPE;
      MODEL TPERCENT=TYPE;
         MEANS TYPE/DUNCAN;
PROC PRINT DATA=BYUIC;
   VAR UICSHIP ATTRIT ASSIGN PERCENT;
      TITLE 'SHIP CLASS ATTRITION PERCENTAGE SUMMARY';
PROC SORT DATA=BYUIC;BY TYPE;
PROC MEANS DATA=BYUIC;BY TYPE;
   VAR ATTRIT ASSIGN PERCENT;
```

APPENDIX X
CARLOAT2 OUTPUT: CLASS ATTRITION SUMMARY TABLE

SHIP CLASS ATTRITION PERCENTAGE SUMMARY 12:32 FRI

LICSHIP						ATTRIT	ASSIGN	PERCENT
100	30094	SSEN	598	G	WASHINGTON CC	0	31	0.0000000
101	30093	SSBN	598	G	WASHINGTON BL	1	33	0.0303030
102	30096	SSBN	599	P	HENRY GOLD	1	43	0.0232558
103	30095	SSEN	599	P	HENRY BLUE	0	37	0.0000000
104	30098	SSBN	600	T	ROOSEVELT GOL	0	5	0.0000000
105	30097	SSEN	600	T	ROOSEVELT BLU	0	26	0.0000000
106	30100	SSBN	601	R	E LEE GOLD	0	39	0.0000000
107	30099	SSBN	601	R	E LEE BLUE	1	52	0.0192308
108	30102	SSEN	602	A	LINCOLN GOLD	0	17	0.0000000
109	30101	SSBN	602	A	LINCOLN BLUE	0	34	0.0000000
110	30104	SSEN	608	E	ALLEN GOLD	1	30	0.0333333
111	30103	SSEN	608	E	ALLEN BLUE	0	55	0.0000000
112	30106	SSBN	609	S	HOUSTON GOLD	0	44	0.0000000
113	30105	SSBN	609	S	HOUSTON BLUE	0	52	0.0000000
114	30108	SSBN	610	T	EDISON GOLD	0	31	0.0000000
115	30107	SSEN	610	T	EDISON BLUE	0	51	0.0000000
116	30110	SSEN	611	J	MARSHALL GOLD	1	35	0.0285714
117	30109	SSBN	611	J	MARSHALL BLUE	0	37	0.0000000
118	30112	SSBN	616	LA	FAYETTE GOLD	1	46	0.0217391
119	30111	SSEN	616	LA	FAYETTE BLUE	0	41	0.0000000
120	30114	SSBN	617	A	HAMILTON GOLD	0	39	0.0000000
121	30113	SSEN	617	A	HAMILTON BLUE	1	45	0.0222222
122	30116	SSEN	618	T	JEFFERSON GOL	1	39	0.0256410
123	30115	SSBN	618	T	JEFFERSON BLU	0	44	0.0000000
124	30080	SSBN	619	A	JACKSON GOLD	0	32	0.0000000
125	30079	SSBN	619	A	JACKSON BLUE	0	45	0.0000000
126	30082	SSBN	620	J	ADAMS GOLD	0	30	0.0000000
127	30081	SSEN	620	J	ADAMS BLUE	0	48	0.0000000
128	30084	SSBN	622	J	MONROE GOLD	0	42	0.0000000
129	30083	SSBN	622	J	MONROE BLUE	1	38	0.0263158
130	30086	SSBN	623	N	HALE GOLD	1	37	0.0270270
131	30085	SSBN	623	N	HALE BLUE	0	35	0.0000000
132	30088	SSBN	624	W	WILSON GOLD	2	48	0.0416667
133	30087	SSBN	624	W	WILSON BLUE	0	39	0.0000000
134	30090	SSBN	625	H	CLAY GOLD	0	32	0.0625000
135	30089	SSBN	625	H	CLAY BLUE	0	38	0.0000000
136	30092	SSBN	626	D	WEBSTER GOLD	2	39	0.0512821
137	30091	SSBN	626	D	WEBSTER BLUE	1	42	0.0238095
138	30121	SSBN	627	J	MADISON GOLD	0	30	0.0000000
139	30120	SSBN	627	J	MADISON BLUE	0	39	0.0000000
140	30123	SSBN	628	TE	CUMSEH GOLD	0	42	0.0000000
141	30122	SSBN	628	TE	CUMSEH BLUE	0	46	0.0000000
142	30125	SSBN	629	D	BOONE GOLD	1	39	0.0256410
143	30124	SSBN	629	D	BOONE BLUE	0	32	0.0000000
144	30127	SSBN	630	J	CALHOUN GOLD	0	47	0.0000000
145	30126	SSBN	630	J	CALHOUN BLUE	0	48	0.0000000
146	30129	SSBN	631	U	GRANT GOLD	2	54	0.0370370
147	30128	SSBN	631	U	GRANT BLUE	0	47	0.0000000
148	30141	SSBN	632	V	STEUBEN GOLD	0	26	0.0000000
149	30140	SSBN	632	V	STEUBEN BLUE	1	43	0.0232558
150	30143	SSBN	633	C	PULASKI GOLD	0	33	0.0000000
151	30142	SSBN	633	C	PULASKI BLUE	0	50	0.0000000
152	30145	SSBN	634	S	JACKSON GOLD	0	51	0.0000000
153	30144	SSBN	634	S	JACKSON BLUE	1	42	0.0238095
154	30147	SSBN	635	S	RAYBURN GOLD	1	58	0.0172414
155	30146	SSBN	635	S	RAYBURN BLUE	0	47	0.0000000
156	30149	SSBN	636	N	GREENE GOLD	0	52	0.0000000
157	30148	SSBN	636	N	GREENE BLUE	0	44	0.0000000
158	30151	SSBN	640	B	FRANKLIN GOLD	0	40	0.0000000
159	30150	SSBN	640	B	FRANKLIN BLUE	1	42	0.0238095
160	30153	SSBN	641	S	BOLIVAR GOLD	0	43	0.0000000
161	30152	SSBN	641	S	BOLIVAR BLUE	0	41	0.0000000
162	30155	SSBN	642	KA	MEHAMEHA GOLD	3	39	0.0769231
163	30154	SSBN	642	KA	MEHAMEHA BLUE	0	44	0.0000000
164	30157	SSBN	643	G	BANCROFT GOLD	0	43	0.0000000
165	30156	SSBN	643	G	BANCROFT BLUE	0	42	0.0000000
166	30159	SSBN	644	LEwI	S&CLARK GOL	1	46	0.0217391
167	30158	SSBN	644	LEWI	S&CLARK BLU	0	35	0.0000000

SHIP CLASS ATTRITION PERCENTAGE SUMMARY

LIC	SHIP				ATTRIT	ASSIGN	PERCENT
168	30161	SSBN	645	J K PCLK CCLC	0	32	0.000000
169	30160	SSBN	645	J K PCLK BLUE	0	38	0.000000
170	30163	SSBN	654	G MARSHALL GOLD	0	37	0.000000
171	30162	SSBN	654	G MARSHALL BLUE	0	47	0.000000
172	30165	SSBN	655	H L STINSON GOLD	1	34	0.029412
173	30164	SSBN	655	H L STINSON BLUE	0	30	0.000000
174	30167	SSBN	656	G W CARVER GOLD	1	32	0.031250
175	30166	SSBN	656	G W CARVER BLUE	0	46	0.000000
176	30169	SSBN	657	F S KEY GOLD	0	21	0.000000
177	30168	SSBN	657	F S KEY BLUE	1	34	0.029412
178	30171	SSBN	658	M VALLEJO GOLD	0	34	0.000000
179	30170	SSBN	658	M VALLEJO BLUE	1	39	0.025641
180	30173	SSBN	659	W REGERS GOLD	0	30	0.000000
181	30172	SSBN	659	W REGERS BLUE	1	42	0.023810
182	055691	SSN	571	NAUTILUS	0	27	0.000000
183	055695	SSN	575	SEAWOLF	0	34	0.000000
184	055697	SSN	578	SKATE	1	32	0.031250
185	055698	SSN	579	SWORDFISH	1	46	0.021739
186	056C8	SSN	583	SARGO	1	31	0.032258
187	056C7	SSN	584	SEADRAGON	2	37	0.054054
188	056C6	SSN	585	SKIPJACK	0	31	0.000000
189	050C1	SSN	588	SCAMP	0	24	0.000000
190	050C3	SSN	590	SCULPIN	0	26	0.000000
191	050C4	SSN	591	SHARK	0	28	0.000000
192	050C5	SSN	592	SNOOK	0	29	0.000000
193	050C7	SSN	594	PERMIT	14	42	0.333333
194	050C8	SSN	595	PLUNGER	1	40	0.025000
195	050C9	SSN	596	BARB	0	19	0.000000
196	050C0	SSN	597	TULLIBEE	0	18	0.000000
197	051111	SSN	603	PCLLACK	1	24	0.041667
198	051112	SSN	604	HADDO	1	34	0.029412
199	051113	SSN	605	JACK	0	34	0.000000
200	051114	SSN	606	TINOSA	0	39	0.000000
201	051115	SSN	607	DACE	0	30	0.000000
202	051120	SSN	612	GUARDFISH	0	43	0.000000
203	051121	SSN	613	FLASHER	0	33	0.000000
204	051122	SSN	614	GREENLING	0	30	0.000000
205	051126	SSN	615	GATO	1	36	0.027778
206	051127	SSN	621	HADDOCK	1	33	0.030303
207	051130	SSN	637	STURGEON	3	28	0.107143
208	051131	SSN	638	WHALE	0	36	0.000000
209	051132	SSN	639	TAUTOG	0	38	0.000000
210	051133	SSN	646	GRAYLING	0	26	0.000000
211	051134	SSN	647	POGY	0	29	0.000000
212	051135	SSN	648	ASPRO	1	30	0.033333
213	051136	SSN	649	SUNFISH	0	33	0.000000
214	051137	SSN	650	PARGO	0	43	0.000000
215	051138	SSN	651	QUEENFISH	0	35	0.000000
216	051139	SSN	652	PUFFER	1	32	0.031250
217	051140	SSN	653	RAY	1	35	0.028571
218	051141	SSN	660	SAND LANCE	2	27	0.074074
219	051142	SSN	661	LAPON	0	33	0.000000
220	051143	SSN	662	GURNARD	0	31	0.000000
221	051144	SSN	663	HAMMERHEAD	0	31	0.000000
222	051145	SSN	664	SEA DEVIL	0	29	0.000000
223	051147	SSN	665	GUITARRO	0	38	0.000000
224	051148	SSN	666	HAWKBILL	0	28	0.000000
225	051149	SSN	667	ARGALL	0	36	0.000000
226	051150	SSN	668	SPADEFISH	0	34	0.000000
227	051151	SSN	669	SEAHORSE	0	25	0.000000
228	051152	SSN	670	FINBACK	0	32	0.000000
229	051146	SSN	671	NARWHAL	0	34	0.000000
230	051153	SSN	672	PINTADO	0	29	0.000000
231	051154	SSN	673	FLYING FISH	0	39	0.000000
232	051155	SSN	674	TREPANG	0	36	0.000000
233	051723	SSN	675	BLUEFISH	0	30	0.000000
234	051724	SSN	676	BILLFISH	0	24	0.000000
235	051725	SSN	677	DRUM	0	28	0.000000

SHIP CLASS ATTRITION PERCENTAGE SUMMARY

LICSHIP					ATTRIT	ASSICN	PERCENT
236	20041	SSN	678	ARCHERFISH	0	27	0.000000
237	20042	SSN	679	SILVERSIDES	0	36	0.000000
238	20043	SSN	680	WILLIAM H BATES	1	22	0.045455
239	20044	SSN	681	BATFISH	0	33	0.000000
240	20045	SSN	682	TUNNY	0	33	0.000000
241	20345	SSN	683	PARCHE	0	27	0.000000
242	20346	SSN	684	CAVALLA	0	28	0.000000
243	20347	SSN	685	G P LIPSCOMB	0	28	0.000000
244	20350	SSN	686	L MENDEL RIVERS	1	24	0.041667
245	20442	SSN	687	RICHARD RUSSELL	0	33	0.000000
246	20202	SSN	688	LOS ANGELES	0	43	0.000000
247	20203	SSN	689	BATON ROUGE	0	43	0.000000
248	20204	SSN	690	PHILADELPHIA	0	26	0.000000
249	20782	SSN	691	MEMPHIS	0	36	0.000000
250	20783	SSN	692	OMAHA	1	32	0.031250
251	20784	SSN	693	CINCINNATI	0	43	0.000000
252	20785	SSN	694	GROTON	1	35	0.028571
253	20786	SSN	695	BIRMINGHAM	3	44	0.068182
254	20787	SSN	696	NEW YORK CITY	0	36	0.000000
255	20788	SSN	697	INDIANAPOLIS	1	36	0.027778
266	03365	CVN	65	ENTERPRISE	92	828	0.111111
267	03368	CVN	68	NIMITZ	126	1110	0.113514
268	03369	CVN	69	DWIGHTEISENHOWE	53	828	0.064010
269	03341	CV	41	MIDWAY	11	927	0.011918
270	03343	CV	43	CORAL SEA	103	817	0.126071
271	03355	CV	59	FORRESTAL	126	1028	0.122568
272	03360	CV	60	SARATOGA	119	1092	0.108974
273	03361	CV	61	RANGER	144	976	0.147541
274	03362	CV	62	INDEPENDENCE	155	1068	0.145131
275	03363	CV	63	KITTY HAWK	107	984	0.108740
276	03364	CV	64	CONSTELLATION	83	923	0.089924
277	03366	CV	66	AMERICA	127	1044	0.121648
278	03367	CV	67	JOHN F KENNEDY	118	894	0.131991
279	03318	AVT	16	LEXINGTON	89	575	0.154783
280	03651	CGN	9	LONG BEACH	22	251	0.087649
281	52700	CGN	25	BAINBRIDGE	8	121	0.066116
282	52712	CGN	35	TRUXTUN	19	195	0.097436
283	20541	CGN	36	CALIFORNIA	17	147	0.115646
284	20665	CGN	37	SOUTH CAROLINA	10	166	0.060241
285	20681	CGN	38	VIRGINIA	9	136	0.066176
286	20682	CGN	39	TEXAS	6	108	0.055556
287	20624	CGN	40	MISSISSIPPI	20	182	0.109890
288	03591	CG	5	OKLAHOMA CITY	3	271	0.011070
289	03623	CG	10	ALBANY	8	289	0.027682
290	03636	CG	11	CHICAGO	15	221	0.067873
291	52687	CG	16	LEAHY	4	121	0.033058
292	52688	CG	17	H E YARNELL	14	129	0.108527
293	52689	CG	18	WORDEN	1	166	0.006024
294	52690	CG	19	DALE	12	126	0.095238
295	52691	CG	20	R K TURNER	10	144	0.069444
296	52692	CG	21	GRIDLEY	10	103	0.097087
297	52693	CG	22	ENGLAND	16	138	0.115942
298	52698	CG	23	HALSEY	9	102	0.088235
299	52699	CG	24	REEVES	5	159	0.031447
300	52702	CG	27	JOSEPHUS DANIEL	0	150	0.000000
301	52703	CG	28	WAINWRIGHT	14	153	0.091503
302	52704	CG	29	JOUETT	11	134	0.082090
303	52705	CG	30	HORNE	20	148	0.135135
304	52706	CG	31	STERETT	7	114	0.061404
305	52707	CG	32	W H STANDLEY	16	158	0.101266
306	52708	CG	33	FOX	9	137	0.065693
307	52709	CG	34	BIDDLE	13	126	0.103175
308	04668	DDG	2	CHARLES F ADAMS	13	114	0.114035
309	04669	DDG	3	JOHN KING	10	119	0.084034
310	04670	DDG	4	LAWRENCE	10	117	0.085470
311	04671	DDG	5	CLAUDE RICKETTS	13	122	0.106557
312	04672	DDG	6	BARNEY	15	121	0.123967
313	04673	DDG	7	HENRY B WILSON	12	112	0.107143

SHIP CLASS ATTRITION PERCENTAGE SUMMARY

LIC	SHIP				ATTRIT	ASSIGN	PERCENT
314	046 74	DDG	8	LYNDE MCCORMICK	8	106	0.075472
315	046 75	DDG	9	TOWERS	11	106	0.103774
316	046 76	DDG	10	SAMPSON	9	106	0.084906
317	046 77	DDG	11	SELLERS	7	113	0.061947
318	046 78	DDG	12	ROBISON	5	120	0.041667
319	046 79	DDG	13	NOEL	8	97	0.082474
320	046 80	DDG	14	BUCHANAN	15	125	0.120000
321	046 81	DDG	15	BERKELEY	5	99	0.050505
322	046 82	DDG	16	JOSEPH STRAUSS	9	141	0.063830
323	046 83	DDG	17	CONYNGHAM	5	104	0.048077
324	046 84	DDG	18	SEMMES	10	119	0.084034
325	046 85	DDG	19	TATTNALL	14	117	0.119658
326	046 86	DDG	20	GOLDSBOROUGH	9	140	0.064286
327	046 87	DDG	21	COCHRANE	9	132	0.068182
328	046 88	DDG	22	BEN STOCKERT	11	135	0.081481
329	046 90	DDG	23	RICHARD E BYRD	4	93	0.043011
330	046 91	DDG	24	WADDELL	11	99	0.111111
331	522 31	DDG	37	FARRAGUT	9	161	0.055901
332	522 32	DDG	38	LUCE	17	139	0.122302
333	522 33	DDG	39	MACDONOUGH	13	112	0.116071
334	522 34	DDG	40	COONTZ	12	113	0.106195
335	522 35	DDG	41	KING	7	119	0.058824
336	522 36	DDG	42	MAHAN	10	119	0.084034
337	526 83	DDG	43	DAHLGREN	9	125	0.072000
338	526 84	DDG	44	WILLIAM V PRATT	8	125	0.064000
339	526 85	DDG	45	DEWEY	14	127	0.110236
340	526 86	DDG	46	PREBLE	11	168	0.065476
341	521 96	DDG	31	DECATUR	12	100	0.120000
342	521 92	DDG	32	JOHN PAUL JONES	5	83	0.060241
343	046 65	DDG	33	PARSONS	2	144	0.013889
344	046 63	DDG	34	SOMERS	9	144	0.062500
345	205 74	DD	963	SPRUANCE	3	60	0.050000
346	205 75	DD	964	PAUL F FOSTER	7	87	0.080460
347	205 76	DD	965	KINKAID	7	103	0.067961
348	205 86	DD	966	HEWITT	4	98	0.040816
349	205 87	DD	967	ELLIOT	4	96	0.041667
350	205 88	DD	968	ARTHUR W RADFORD	7	139	0.050360
351	205 89	DD	969	PETERSON	10	103	0.097087
352	205 90	DD	970	CARON	0	82	0.000000
353	205 91	DD	971	DAVID R RAY	3	80	0.037500
354	215 98	DDG	972	OLDENDORF	4	79	0.050633
355	215 99	DDG	973	JOHN YOUNG	12	117	0.102564
356	206 01	DDG	975	OBRIEN	11	85	0.129412
357	206 02	DDG	976	MERRILL	6	108	0.055556
358	206 03	DDG	977	BRISCOE	7	106	0.066038
359	206 04	DDG	978	STUMP	13	124	0.104839
360	206 11	DDG	979	CONOLLY	7	112	0.062500
361	046 61	DDG	945	HULL	10	113	0.088496
362	046 62	DDG	946	EDSON	12	102	0.117647
363	046 64	DDG	948	MORTON	10	163	0.061350
364	046 66	DDG	950	RICHARD EDWARDS	12	130	0.092308
365	046 67	DDG	951	TURNER JOY	10	110	0.090909
366	521 91	DDG	931	FORREST SHERMAN	13	105	0.123810
367	521 93	DDG	933	BARRY	5	95	0.052632
368	521 97	DDG	937	DAVIS	4	85	0.047059
369	521 98	DDG	938	JONAS INGRAM	4	87	0.045977
370	521 99	DDG	940	MANLEY	15	114	0.131579
371	522 00	DDG	941	DUPONT	6	77	0.077922
372	522 01	DDG	942	BIGELOW	15	95	0.157895
373	522 02	DDG	943	BLANDY	7	88	0.079545
374	522 03	DDG	944	MULLINNIX	11	104	0.105769
376	038 43	DDG	743	SOUTHERLAND	2	64	0.031250
377	038 63	DDG	763	WILLIAM C LAWE	20	127	0.157480
378	038 84	DDG	784	MCKEAN	2	54	0.037037
379	038 85	DDG	785	HENDERSON	6	69	0.086957
380	038 88	DDG	788	HOLLISTER	2	53	0.037736
381	039 06	DDG	806	HIGBEE	1	51	0.019608
382	521 17	DD	817	CORRY	6	65	0.092308

SHIP CLASS ATTRITION PERCENTAGE SUMMARY

LIC	SHIP				ATTRIT	ASSIGN	PERCENT
383	52121	DD	821	JOHNSTON	7	71	0.098592
384	52122	DD	822	ROBERT H MCCARD	5	63	0.079365
385	52126	DD	826	AGERHOLM	7	73	0.095890
386	52129	DD	829	MYLES C FOX	3	61	0.049180
387	52135	DD	835	CHARLES P CECIL	5	53	0.094340
388	52142	DD	842	FISKE	6	80	0.075000
389	52162	DD	862	VOGELGESANG	9	66	0.136364
390	52163	DD	863	STEINAKER	9	63	0.142857
391	52164	DD	864	HAROLD J ELLISON	6	68	0.088235
392	52166	DD	866	CONE	6	77	0.077922
393	52171	DD	871	DAMATO	9	64	0.140625
394	52173	DD	873	HAWKINS	7	55	0.127273
395	52176	DD	876	ROGERS	6	39	0.153846
396	52180	DD	880	DYESS	7	64	0.109375
397	52183	DD	883	NEWMAN K PERRY	11	75	0.146667
398	52185	DD	885	JOHN R CRAIG	0	69	0.000000
399	52186	DD	886	ORLECK	6	73	0.082192
400	52190	DD	890	MEREDITH	3	47	0.063830
401	52125	DD	825	CARPENTER	1	59	0.016949
402	52127	DD	827	ROBERT A OWENS	7	62	0.112903
410	54047	FF	1052	KNOX	1	73	0.013699
411	54048	FF	1053	ROARK	15	109	0.137615
412	54049	FF	1054	GRAY	3	84	0.035714
413	54050	FF	1055	HEPBURN	7	93	0.075269
414	54051	FF	1056	CONNOLE	11	87	0.126437
415	54052	FF	1057	RATHBURNE	9	127	0.070866
416	54053	FF	1058	MEYERKORD	3	84	0.035714
417	54054	FF	1059	W S SIMS	9	94	0.095745
418	54055	FF	1060	LANG	13	84	0.154762
419	54056	FF	1061	PATTERSON	8	80	0.100000
420	54057	FF	1062	WHIPPLE	4	67	0.059701
421	54058	FF	1063	REASONER	4	81	0.049383
422	54059	FF	1064	LOCKWOOD	0	84	0.000000
423	54060	FF	1065	STEIN	14	81	0.172840
424	54061	FF	1066	MARVIN SHIELDS	7	89	0.078652
425	54062	FF	1067	FRANCIS HAMMOND	0	52	0.000000
426	54063	FF	1068	VREELAND	6	76	0.078947
427	54064	FF	1069	BAGLEY	1	98	0.010204
428	54065	FF	1070	DOWNES	6	86	0.069767
429	54066	FF	1071	BADGER	7	106	0.066038
430	54067	FF	1072	BLAKELY	14	83	0.168675
431	54068	FF	1073	ROBERT E PEARY	3	93	0.032258
432	54069	FF	1074	HAROLD E HOLT	4	95	0.042105
433	54070	FF	1075	TRIPPE	7	77	0.090909
434	54071	FF	1076	FANNING	5	101	0.049505
435	54072	FF	1077	DUELLET	9	105	0.085714
436	20045	FF	1078	JOSEPH HEWES	9	88	0.102273
437	20050	FF	1079	BOWEN	7	80	0.087500
438	20051	FF	1080	PAUL	5	70	0.071429
439	20052	FF	1081	AYLWIN	10	76	0.131579
440	20053	FF	1082	ELMER MONTGOMERY	4	92	0.043478
441	20054	FF	1083	COOK	6	84	0.071429
442	20055	FF	1084	MCCANDLESS	10	89	0.112360
443	20056	FF	1085	DONALD B BEARY	5	72	0.069444
444	20057	FF	1086	BREWTON	4	94	0.042553
445	20058	FF	1087	KIRK	1	91	0.010989
446	20066	FF	1088	BARBEY	4	83	0.048193
447	20067	FF	1089	JESSE L BROWN	5	86	0.058140
448	20068	FF	1090	AINSWORTH	4	64	0.062500
449	20069	FF	1091	MILLER	13	92	0.141304
450	20070	FF	1092	THOMAS C HART	2	76	0.026316
451	20071	FF	1093	CAPODANNO	4	90	0.044444
452	20072	FF	1094	PHARRIS	10	80	0.125000
453	20073	FF	1095	TRUETT	12	78	0.153846
454	20074	FF	1096	VALDEZ	5	64	0.078125
455	20075	FF	1097	MCINERNEY	8	80	0.100000
456	17700	FF	1098	GLOVER	8	82	0.097561
457	54037	FF	1140	GARCIA	9	90	0.100000

SHIP CLASS ATTRITION PERCENTAGE SUMMARY

LIC	SHIP				ATTRIT	ASSIGN	PERCENT
458	54038	FF	1041	BRADLEY	12	93	0.129032
459	54039	FF	1043	EDWARD MCDONNEL	6	98	0.061224
460	54040	FF	1044	BRUMBY	2	73	0.027397
461	54041	FF	1045	DAVIDSON	6	97	0.061856
462	54042	FF	1047	VOGE	4	67	0.059701
463	54043	FF	1048	SAMPLE	6	101	0.059406
464	54044	FF	1049	KOELSCH	6	69	0.086957
465	54045	FF	1050	ALBERT DAVIS	8	69	0.115942
466	54046	FF	1051	OCALLAHAN	7	70	0.100000
467	54035	FF	1037	BRONSTEIN	4	47	0.085106
468	54036	FF	1038	MCCLOY	9	76	0.118421
474	20550	LHA	1	TARAWA	21	258	0.081395
475	20632	LHA	2	SAIPAN	26	192	0.135417
476	20633	LHA	3	BELLEAU WOOD	22	374	0.058824
477	07350	LPH	2	IWO JIMA	27	240	0.112500
478	07351	LPH	3	OKINAWA	25	220	0.113636
479	07352	LPH	7	GUADALCANAL	17	190	0.089474
480	07178	LPH	9	GUAM	20	206	0.097087
481	07198	LPH	10	TRIPOLI	39	216	0.180556
482	07202	LPH	11	NEW ORLEANS	16	198	0.080808
483	20009	LPH	12	INCHON	22	237	0.092827
484	07170	LPD	1	RALEIGH	21	125	0.168000
485	07171	LPD	2	VANCOUVER	18	154	0.116883
486	07175	LPD	4	AUSTIN	16	133	0.120301
487	07176	LPD	5	OGDEN	17	124	0.137097
488	07177	LPD	6	DULUTH	13	130	0.100000
489	07181	LPD	7	CLEVELAND	9	126	0.071429
490	07182	LPD	8	DUBUQUE	17	179	0.094972
491	07183	LPD	9	DENVER	18	137	0.131387
492	07184	LPD	10	JUNEAU	8	112	0.071429
493	07194	LPD	11	CORONADO	16	137	0.116788
494	07195	LPD	12	SHREVEPORT	15	132	0.113636
495	07196	LPD	13	NASHVILLE	11	173	0.063584
496	07200	LPD	14	TRENTON	21	148	0.141892
497	07201	LPD	15	PONCE	17	129	0.131783
498	03128	LSD	28	THOMASTON	18	116	0.155172
499	03129	LSD	29	PLYMOUTH ROCK	14	121	0.115702
500	03130	LSD	30	FORT SNELLING	20	115	0.173913
501	03131	LSD	31	POINT DEFIANCE	14	85	0.164706
502	03132	LSD	32	SPIEGEL GROVE	8	101	0.079208
503	03133	LSD	33	ALAMO	13	97	0.134021
504	03134	LSD	34	HERMITAGE	28	133	0.210526
505	03135	LSD	35	MONTICELLO	19	122	0.155738
506	07203	LSD	36	ANCHORAGE	12	114	0.105263
507	20012	LSD	37	PORTLAND	15	136	0.110294
508	20013	LSD	38	PENSACOLA	7	114	0.061404
509	20014	LSD	39	MOUNT VERNON	14	119	0.117647
510	20015	LSD	40	FORT FISHER	5	105	0.047619
511	20019	LST	1180	MANITOWOC	5	66	0.075758
512	20020	LST	1181	SUMTER	11	92	0.119565
513	20021	LST	1182	FRESNO	2	69	0.028986
514	20022	LST	1183	PEORIA	5	69	0.072464
515	20023	LST	1184	FREDERICK	13	79	0.164557
516	20024	LST	1185	SCHENECTADY	9	65	0.138462
517	20025	LST	1186	CAYUGA	12	74	0.162162
518	20026	LST	1187	TUSCALOOSA	9	77	0.116883
519	20027	LST	1188	SAGINAW	11	80	0.137500
520	20028	LST	1189	SAN BERNARDINO	8	67	0.119403
521	20029	LST	1190	BOULDER	8	65	0.123077
522	20030	LST	1191	RACINE	7	78	0.089744
523	20031	LST	1192	SPARTANBURG	7	84	0.083333
524	20032	LST	1193	FAIRFAX COUNTY	12	86	0.139535
525	20033	LST	1194	LA MOURE COUNTY	6	70	0.085714
526	20221	LST	1195	BARBOUR COUNTY	12	80	0.150000
527	20222	LST	1196	HARLAN COUNTY	7	72	0.097222
528	20223	LST	1197	BARNSTABLE CTY	7	65	0.107692
529	20224	LST	1198	BRISTOL COUNTY	6	82	0.073171
530	58179	LST	1179	NEWPORT	13	69	0.188406

SHIP CLASS ATTRITION PERCENTAGE SUMMARY

LIC	SHIP				ATTRIT	ASSIGN	PERCENT
631	088C8	LKA	112	TULARE	4	81	0.049382
632	058446	LKA	113	CHARLESTON	15	116	0.129310
633	058445	LKA	114	DURHAM	10	104	0.096154
634	058446	LKA	115	MOBILE	22	134	0.164179
635	058447	LKA	116	ST LOUIS	16	97	0.164948
636	200C4	LKA	117	EL PASO	10	152	0.065789
664	046618	AD	14	OIXIE	38	274	0.138686
665	046620	AD	15	PRAIRIE	35	280	0.125000
666	046637	AD	17	PIEDMONT	40	287	0.139373
667	046638	AD	18	SIERRA	28	267	0.104869
668	046639	AD	19	YOSEMITE	32	270	0.118519
669	046644	AD	26	SHENANDOAH	10	164	0.060976
670	017720	AD	36	BRYCE CANYON	31	252	0.123016
671	046648	AD	37	SAMUEL GOMPERS	61	401	0.152120
672	058437	AD	38	PUGET SOUND	48	410	0.117073
673	088821	AE	21	SURIBACHI	10	144	0.069444
674	088822	AE	22	MAUNA KEA	9	117	0.076923
675	088891	AE	23	NITRO	19	148	0.128378
676	088892	AE	24	PYRO	14	109	0.128440
677	088901	AE	25	HALEAKALA	24	142	0.169014
678	058828	AE	26	KILAUEA	16	100	0.160000
679	058835	AE	27	BUTTE	15	134	0.111940
680	201111	AE	28	SANTA BARBARA	18	150	0.120000
681	201112	AE	29	MOUNT HOOD	16	147	0.108844
682	201113	AE	32	FLINT	13	129	0.100775
683	201114	AE	33	SHASTA	19	140	0.135714
684	201115	AE	34	MOUNT BAKER	10	115	0.086957
685	202455	AE	35	KISKA	13	121	0.107438
586	058831	AFS	1	MARS	8	152	0.052632
587	740225	AFS	2	SYLVANIA	22	169	0.130178
588	058834	AFS	3	NIAGARA FALLS	11	139	0.079137
589	058835	AFS	4	WHITE PLAINS	0	125	0.000000
590	058836	AFS	5	CONCORD	22	143	0.153846
591	201116	AFS	6	SAN DIEGO	11	142	0.077465
592	201118	AFS	7	SAN JOSE	15	137	0.109489
596	058832	ACE	1	SACRAMENTO	14	196	0.071429
597	058833	ACE	2	CAMDEN	23	248	0.092742
598	058848	ACE	3	SEATTLE	23	250	0.092000
599	201120	ACE	4	DETROIT	15	174	0.086207
600	058849	AOR	1	WICHITA	11	157	0.070064
601	058850	ACR	2	MILWAUKEE	11	139	0.079137
602	201122	ACR	3	KANSAS CITY	19	164	0.115854
603	201123	ACR	4	SAVANNAH	12	154	0.077922
604	201124	ACR	5	WABASH	28	178	0.157303
605	201125	ACR	6	KALAMAZOO	15	143	0.104895
606	202481	ACR	7	ROANOKE	21	133	0.157895
607	049851	AC	51	ASHTABULA	14	170	0.082353
608	048848	AC	98	CALCOSAHATCHEE	20	121	0.165289
609	048849	AC	99	CANISTEO	18	164	0.109756
610	059C5	AC	145	HASSAYAMPA	6	78	0.076923
611	059C6	AC	146	KAWISHIWI	4	135	0.029630
612	059C7	AC	147	TRUCKEE	9	88	0.102273
613	059C8	AC	148	PONCHATOULA	12	154	0.077922
614	088806	AR	6	AJAX	39	309	0.126214
615	088C8	AR	5	VULCAN	23	218	0.105505
616	088C9	AR	7	HECTOR	26	258	0.100775
617	088810	AR	8	JASON	44	320	0.137500
618	025C8	ARS	8	PRESERVER	3	20	0.150000
619	025C3	ARS	23	DELIVER	0	26	0.000000
620	025C5	ARS	25	SAFEGUARD	2	20	0.100000
621	025C8	ARS	38	BOLSTER	1	39	0.025641
622	025C4	ARS	39	CONSERVER	3	37	0.081081
623	025C5	ARS	40	HOIST	5	28	0.178571
624	025C6	ARS	41	OPPORTUNE	3	29	0.103448
625	025C7	ARS	42	RECLAIMER	3	45	0.066667
626	025C8	ARS	43	RECOVERY	0	41	0.000000
627	046619	AS	11	FULTON	25	296	0.084459
628	046621	AS	12	SPERRY	23	150	0.153333

SHIP CLASS ATTRITION PERCENTAGE SUMMARY

UIC	SHIP			ATTRIT	ASSIGN	PERCENT
629	04626	AS	16 HOWARD W GILMER	11	525	0.020952
630	04628	AS	18 ORION	32	327	0.097859
631	04629	AS	19 PROTEUS	4	205	0.019512
632	04689	AS	31 HUNLEY	20	464	0.043122
633	04696	AS	32 HOLLAND	2	387	0.005168
634	04697	AS	33 SIMON LAKE	35	377	0.092838
635	04720	AS	34 CANOPUS	38	380	0.100000
636	05851	AS	36 L Y SPEAR	37	348	0.106322
637	20132	AS	37 DIXON	16	163	0.098160

APPENDIX Y

SAS PROGRAM CARLCLS1: CLASS ATTRITION HISTORY BY LOSS MONTH

```
//CARLCLS1 JOB (2987,0020),'C.G.CARLSON SMC1725',CLASS=B
//   EXEC SAS
//DATAFILE DD DISP=SHR,DSNAME=MSS.S2987.STF.COHRT6
//SYSIN DD *
DATA:
   INFILE DATAFILE;
    INPUT COHORT 2-3 ATTRIT 5 LMON 7-8  COUNT 19-21
          UIC 23-27 SHIP $ 29-37  NAME $ 39-53 HOMEPORT $ 55-65
          CLASS 66-67 DATASHIP $ 68-82;
            IF CLASS=2 OR CLASS=4 OR CLASS=11 OR CLASS=13 THEN DELETE;
            IF CLASS=14 OR CLASS=15 OR CLASS=22 OR CLASS=23 THEN DELETE;
            IF CLASS=27 OR CLASS=28 OR CLASS=29 OR CLASS=36 THEN DELETE;
            IF CLASS=37 OR CLASS=38 OR CLASS=39 OR CLASS=26 THEN DELETE;
PROC SORT;BY COUNT;BY CLASS;
PROC CHART;
  HBAR LMON/DISCRETE GROUP=CLASS SUMVAR=ATTRIT;
```

APPENDIX Z

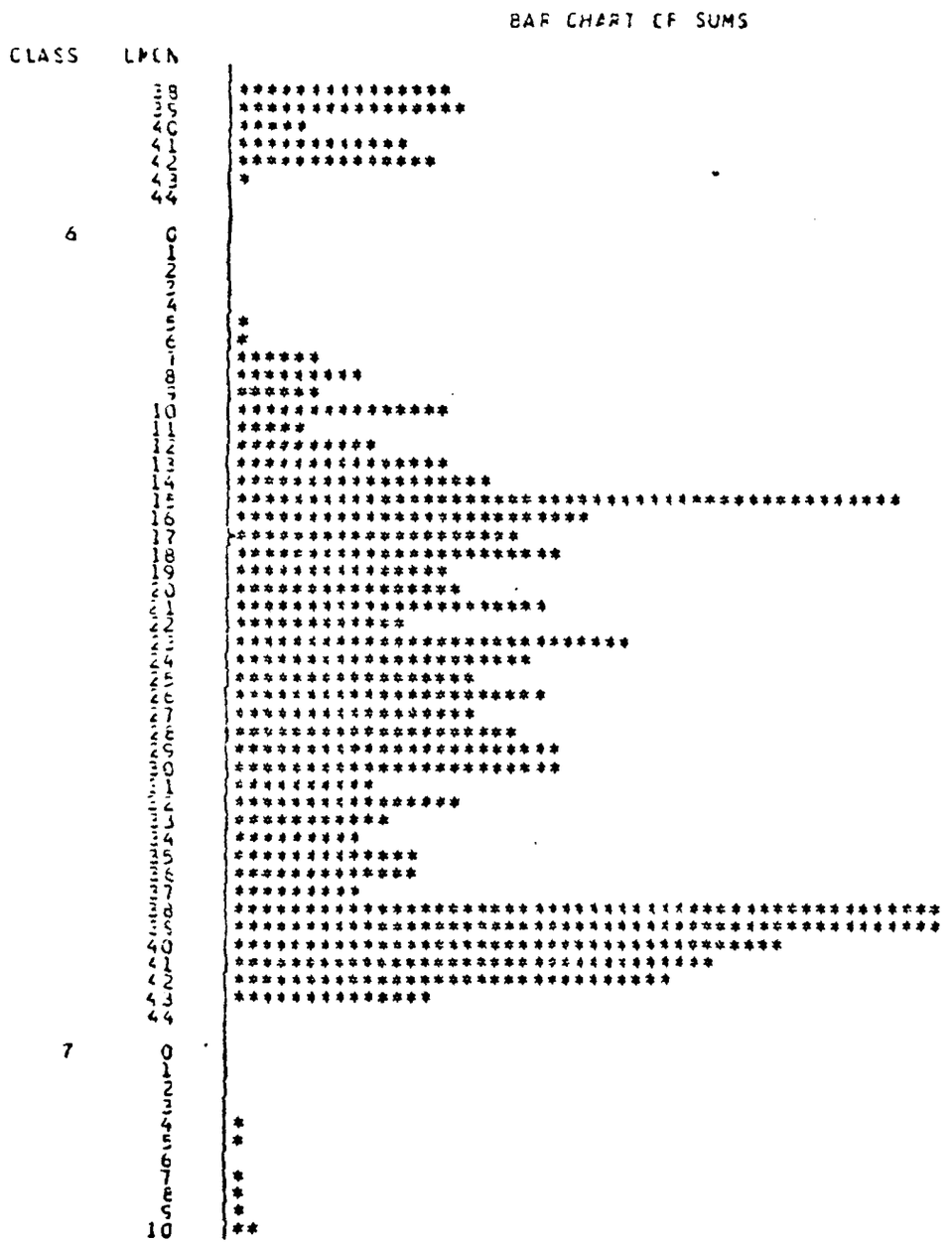
SAS PROGRAM CARLFHR2: CLASS STEAMING HOURS

UNDERWAY BY LOSS MONTH

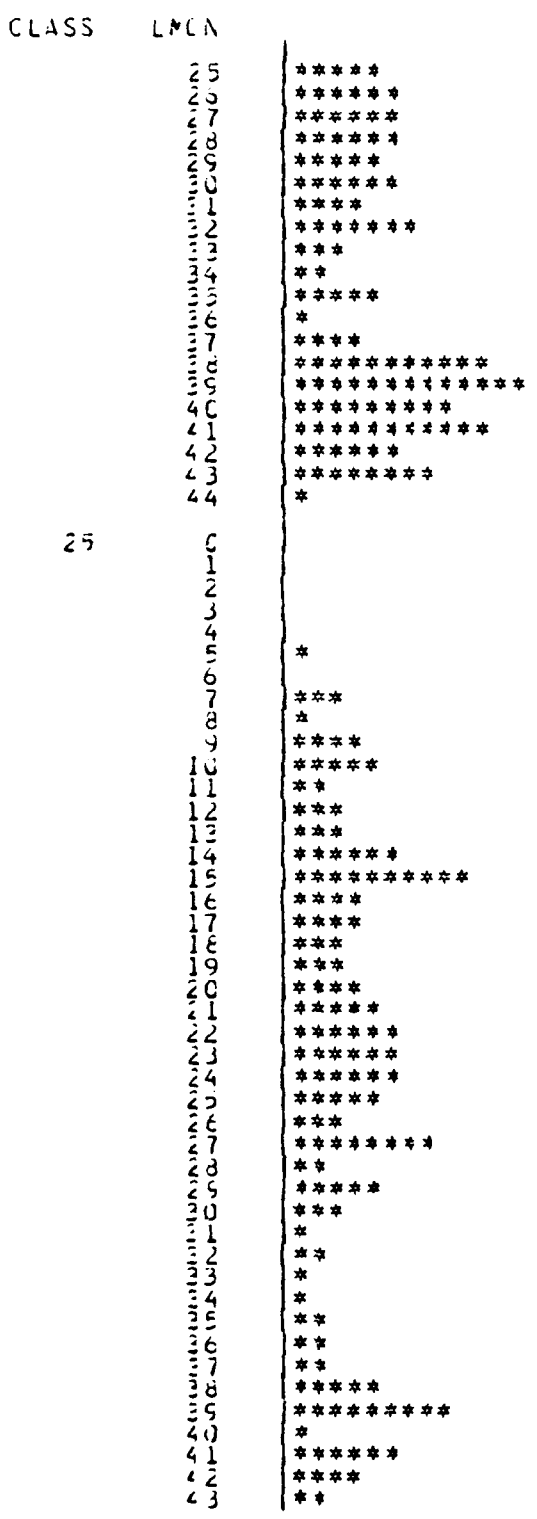
```
//CARLFHR2 JOB (2987,0020),'C.G.CARLSON SMC1725',CLASS=B
//   EXEC SAS,REGION=700K
//DATAFILE DD DISP=SHR,DSNAME=MSS.S2987.FUEL4
//SYSIN DD *
DATA;
   INFILE DATAFILE;
      INPUT UICSHIP $ 26-60 PERIOD 11-14 UWHRS 22-24 CLASS 73-74;
      IF PERIOD GE 7707;
            IF CLASS=2 OR CLASS=4 OR CLASS=11 OR CLASS=13 THEN DELETE;
            IF CLASS=14 OR CLASS=15 OR CLASS=22 OR CLASS=23 THEN DELETE;
            IF CLASS=27 OR CLASS=28 OR CLASS=29 OR CLASS=36 THEN DELETE;
            IF CLASS=37 OR CLASS=38 OR CLASS=39 THEN DELETE;
PROC SORT;
   BY UICSHIP;
   BY PERIOD;
PROC CHART;
   HBAR PERIOD/DISCRETE GROUP=CLASS SUMVAR=UWHRS;
PROC MEANS MEAN STD MIN MAX RANGE SUM VAR;
   BY CLASS;
   VAR UWHRS;
```

APPENDIX AA

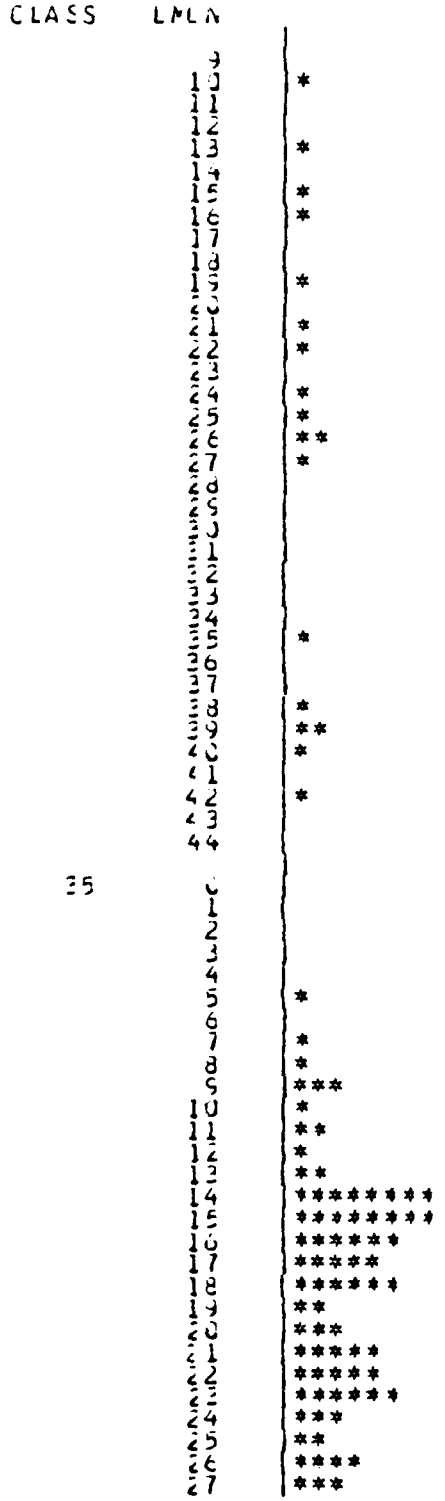
SAMPLE OUTPUT OF CARLCLS1: CLASS ATTRITION HISTORY BY LOSS MONTH



BAR CHART OF SUMS

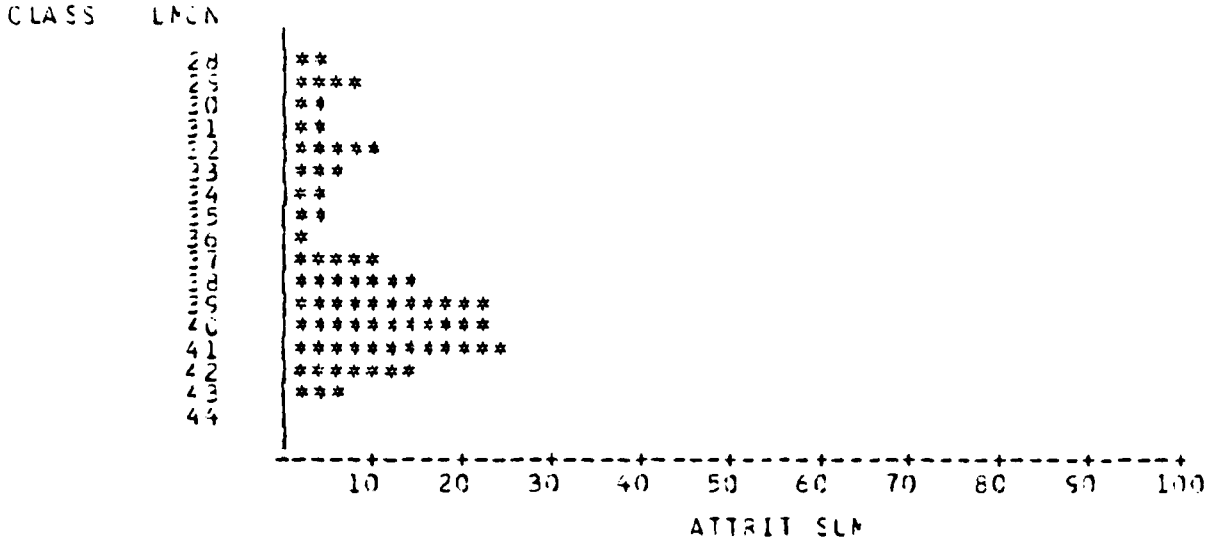


BAR CHART OF SUMS



S T A T I S T I C A L A N A L Y S I S S Y S

BAR CHART OF SUMS



APPENDIX BB
OVERALL CLASS ATTRITION SUMMARY BY LOS MONTH

LMON=1

VARIABLE	SUM
ATTRIT	24.00000000
-------- LMON=2 -------	
ATTRIT	24.00000000
-------- LMON=3 -------	
ATTRIT	63.00000000
-------- LMON=4 -------	
ATTRIT	260.00000000
-------- LMON=5 -------	
ATTRIT	1253.00000000
-------- LMON=6 -------	
ATTRIT	942.00000000
-------- LMON=7 -------	
ATTRIT	1031.00000000
-------- LMON=8 -------	
ATTRIT	888.00000000
-------- LMON=9 -------	
ATTRIT	1148.00000000
------- LMON=10 -------	
ATTRIT	1405.00000000
------- LMON=11 -------	
ATTRIT	1080.00000000
------- LMON=12 -------	
ATTRIT	1054.00000000
------- LMON=13 -------	
ATTRIT	1490.00000000
------- LMON=14 -------	
ATTRIT	1770.00000000
------- LMON=15 -------	
ATTRIT	1670.00000000
------- LMON=16 -------	
ATTRIT	1066.00000000
------- LMON=17 -------	
ATTRIT	963.00000000

S T A T I S T I C A L A N A L Y S I S S Y S T E M

LMON=18

VARIABLE	SUM
ATTRIT	809.00000000
------- LMON=19 -------	
ATTRIT	723.00000000
------- LMON=20 -------	
ATTRIT	744.00000000
------- LMON=21 -------	
ATTRIT	767.00000000
------- LMON=22 -------	
ATTRIT	771.00000000
------- LMON=23 -------	
ATTRIT	838.00000000
------- LMON=24 -------	
ATTRIT	826.00000000
------- LMON=25 -------	
ATTRIT	690.00000000
------- LMON=26 -------	
ATTRIT	782.00000000
------- LMON=27 -------	
ATTRIT	806.00000000
------- LMON=28 -------	
ATTRIT	630.00000000
------- LMON=29 -------	
ATTRIT	675.00000000
------- LMON=30 -------	
ATTRIT	629.00000000
------- LMON=31 -------	
ATTRIT	466.00000000
------- LMON=32 -------	
ATTRIT	495.00000000
------- LMON=33 -------	
ATTRIT	503.00000000
------- LMON=34 -------	
ATTRIT	492.00000000

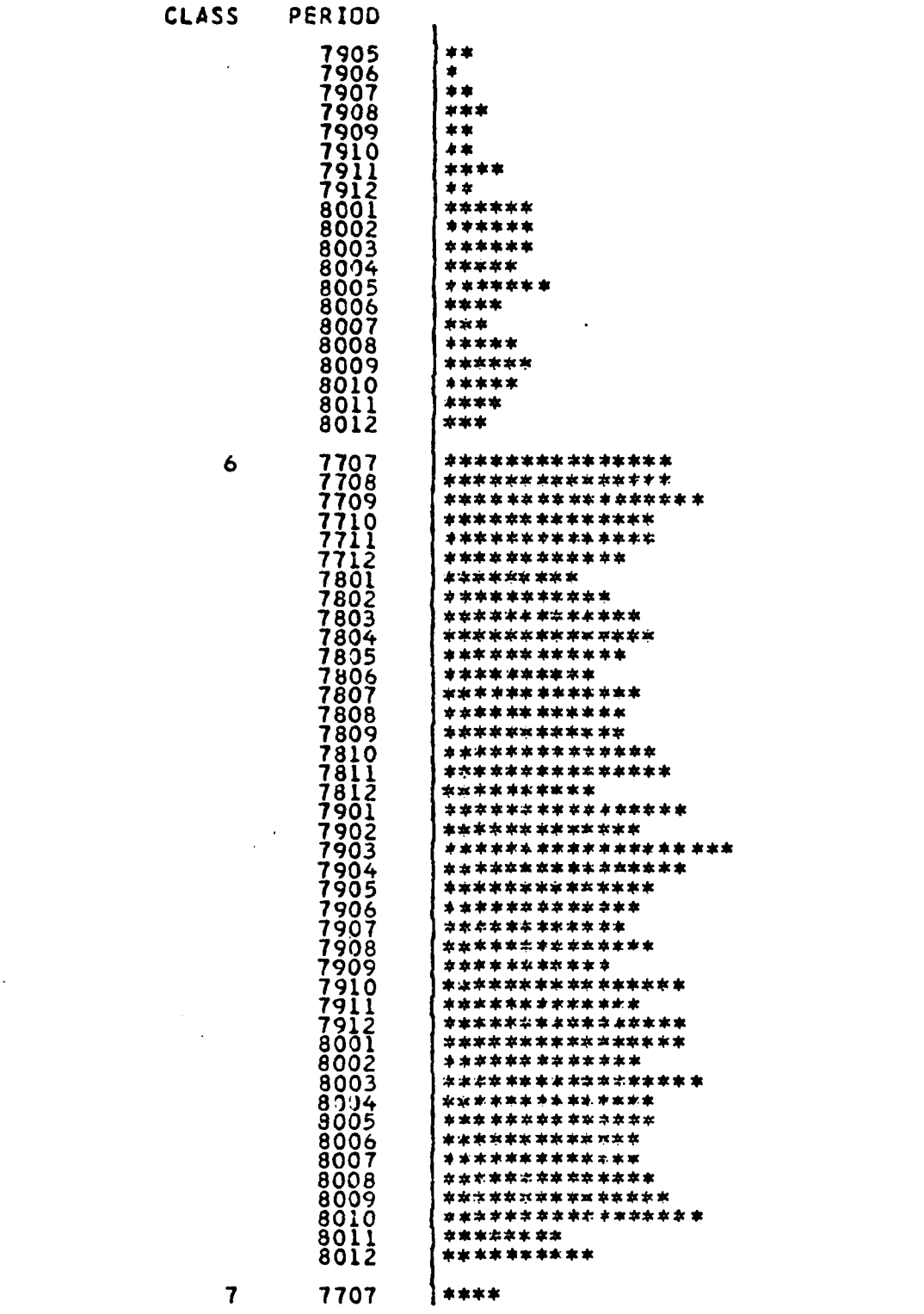
S T A T I S T I C A L A N A L Y S I S S Y S T E M

LMON=35

VARIABLE	SUM
ATTRIT	518.00000000
-------- LMON=36 --------	
ATTRIT	517.00000000
-------- LMON=37 --------	
ATTRIT	527.00000000
-------- LMON=38 --------	
ATTRIT	1182.00000000
-------- LMON=39 --------	
ATTRIT	1193.00000000
-------- LMON=40 --------	
ATTRIT	971.00000000
-------- LMON=41 --------	
ATTRIT	931.00000000
-------- LMON=42 --------	
ATTRIT	794.00000000
-------- LMON=43 --------	
ATTRIT	488.00000000

APPENDIX CC

SAMPLE OUTPUT OF CARLFHR2: CLASS STEAMING HOURS UNDERWAY BY LOSS MONTH



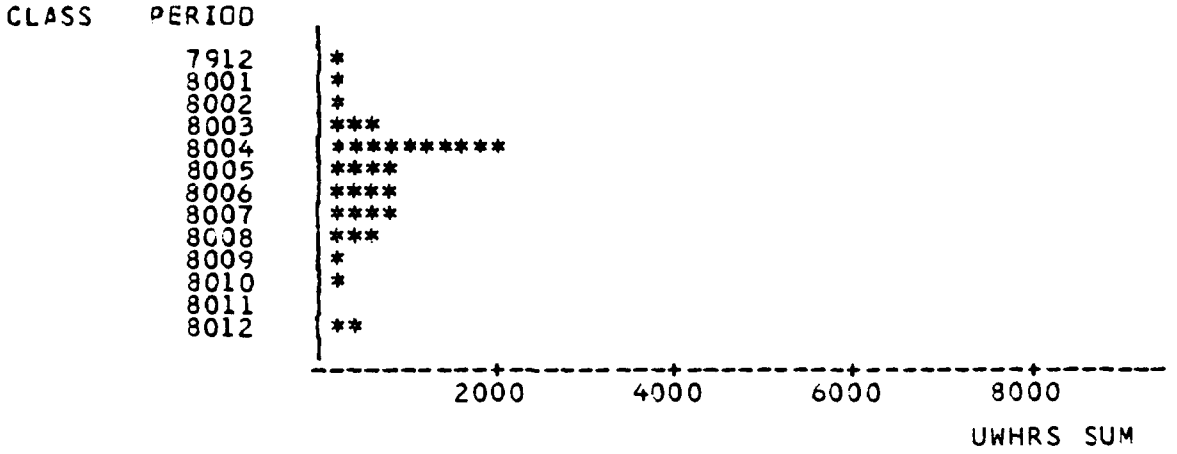
BAR CHART OF SUMS

CLASS	PERIOD	
	7712	*******
	7801	*********
	7802	*******
	7803	*********
	7804	*********
	7805	**********
	7806	********
	7807	**********
	7808	*******
	7809	**********
	7810	**********
	7811	**********
	7812	*******
	7901	*********
	7902	**********
	7903	**********
	7904	*******
	7905	********
	7906	*******
	7907	**********
	7908	**********
	7909	**********
	7910	**********
	7911	**********
	7912	**********
	8001	**********
	8002	**********
	8003	**********
	8004	**********
	8005	**********
	8006	**********
	8007	**********
	8008	**********
	8009	**********
	8010	**********
	8011	***
	8012	****
26	7707	********
	7708	******
	7709	*****
	7710	********
	7711	********
	7712	******
	7801	*****
	7802	********
	7803	*****
	7804	**********
	7805	********
	7806	*******
	7807	*******
	7808	*****
	7809	*****
	7810	**********
	7811	********
	7812	*******
	7901	*******
	7902	******
	7903	********
	7904	*******
	7905	*******
	7906	******
	7907	*******
	7908	*******
	7909	*****

BAR CHART OF SUMS

CLASS	PERIOD	
	7802	*****
	7803	*****
	7804	******
	7805	**********
	7806	**********
	7807	*******
	7808	********
	7809	********
	7810	*******
	7811	*********
	7812	*****
	7901	****
	7902	*******
	7903	*********
	7904	*******
	7905	*********
	7906	**********
	7907	*********
	7908	*******
	7909	*******
	7910	**********
	7911	*****
	7912	******
	8001	******
	8002	**********
	8003	****
	8004	**
	8005	****
	8006	*******
	8007	*******
	8008	*********
	8009	******
	8010	********
	8011	**
	8012	***
35	7707	*
	7708	*
	7709	
	7710	
	7711	**
	7712	*
	7801	*
	7802	***
	7803	***
	7804	
	7805	*
	7806	*
	7807	*
	7808	****
	7809	****
	7810	***
	7811	***
	7812	**
	7901	*
	7902	**
	7903	*
	7904	*
	7905	**
	7906	***
	7907	*
	7908	**
	7909	*
	7910	*
	7911	*

BAR CHART OF SUMS



STATISTICAL ANALYSIS SYSTEM 14:14 SUNDAY, SEPTEMBER

CLASS=3

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	RANGE	SUM	VARIANCE
UWHRS	186.96892039	199.77406391	0	744.00000000	744.00000000	342901.000000	39909.6766113
CLASS=5							
UWHRS	321.64077670	230.00553507	0	744.00000000	744.00000000	33129.0000000	52902.5461641
CLASS=6							
UWHRS	262.50115473	196.91319441	0	744.00000000	744.00000000	113663.000000	38774.8061329
CLASS=7							
UWHRS	262.34201954	218.00654400	0	744.00000000	744.00000000	80539.0000000	47526.8532286
CLASS=8							
UWHRS	223.30705394	190.34587935	0	845.00000000	845.00000000	161451.000000	36231.5537867
CLASS=9							
UWHRS	192.12978723	180.76706924	0	744.00000000	744.00000000	270903.000000	32676.7333207
CLASS=10							
UWHRS	142.67109145	156.58118019	0	744.00000000	744.00000000	290193.000000	24517.6659912
CLASS=12							
UWHRS	201.59894227	182.18979947	0	744.00000000	744.00000000	457428.000000	33193.1230324
CLASS=16							
UWHRS	154.36000000	158.21930950	0	624.00000000	624.00000000	15406.0000000	25033.3498990
CLASS=17							
UWHRS	182.44964029	171.32647487	0	672.00000000	672.00000000	50721.0000000	29352.7609926
CLASS=18							
UWHRS	160.77037037	154.91743882	0	678.00000000	678.00000000	86816.0000000	23993.4128496
CLASS=19							
UWHRS	162.46804124	161.24564671	0	720.00000000	720.00000000	78797.0000000	26000.1585840
CLASS=20							
UWHRS	178.82564103	163.38755948	0	720.00000000	720.00000000	139484.000000	26695.4945920
CLASS=21							
UWHRS	143.79545455	154.51219153	0	613.00000000	613.00000000	31635.0000000	23874.0173308
CLASS=24							
UWHRS	64.87246377	102.98908257	0	632.00000000	632.00000000	22381.0000000	10606.7511291
CLASS=25							
UWHRS	176.11491935	154.64894393	0	679.00000000	679.00000000	87353.0000000	23916.2958578
CLASS=26							
UWHRS	221.34572491	176.23393171	0	717.00000000	717.00000000	59542.0000000	31058.3986850

APPENDIX EE

SAS PROGRAM CAUWCLAS: INDIVIDUAL SHIP STEAMING HOURS UNDERWAY HISTORY FOR THREE CLASSES OF SHIPS

```
//CAUWCLAS JOB (2987,0020),'C.G.CARLSON SMC1725',CLASS=B
//   EXEC SAS,REGION=700K
//DATAFILE DD DISP=SHR,DSNAME=MSS.S2987.FUEL4
//SYSIN DD *
DATA;
   INFILE DATAFILE;
     INPUT UICSHIP $ 36-60 PERIOD 11-14 UWHRS 22-24 CLASS 73-74
       COUNT 26-28;
       IF PERIOD GE 7707;
          IF CLASS=6 OR CLASS=12 OR CLASS=20;
PROC SORT;
   BY COUNT;
   BY CLASS;
   BY PERIOD;
PROC CHART;
  HBAR PERIOD/DISCRETE GROUP=UICSHIP SUMVAR=UWHRS;
PROC SORT;BY UICSHIP;
PROC MEANS MEAN STD MIN MAX RANGE SUM VAR;
   BY UICSHIP;
     VAR UWHRS;
```

APPENDIX FF

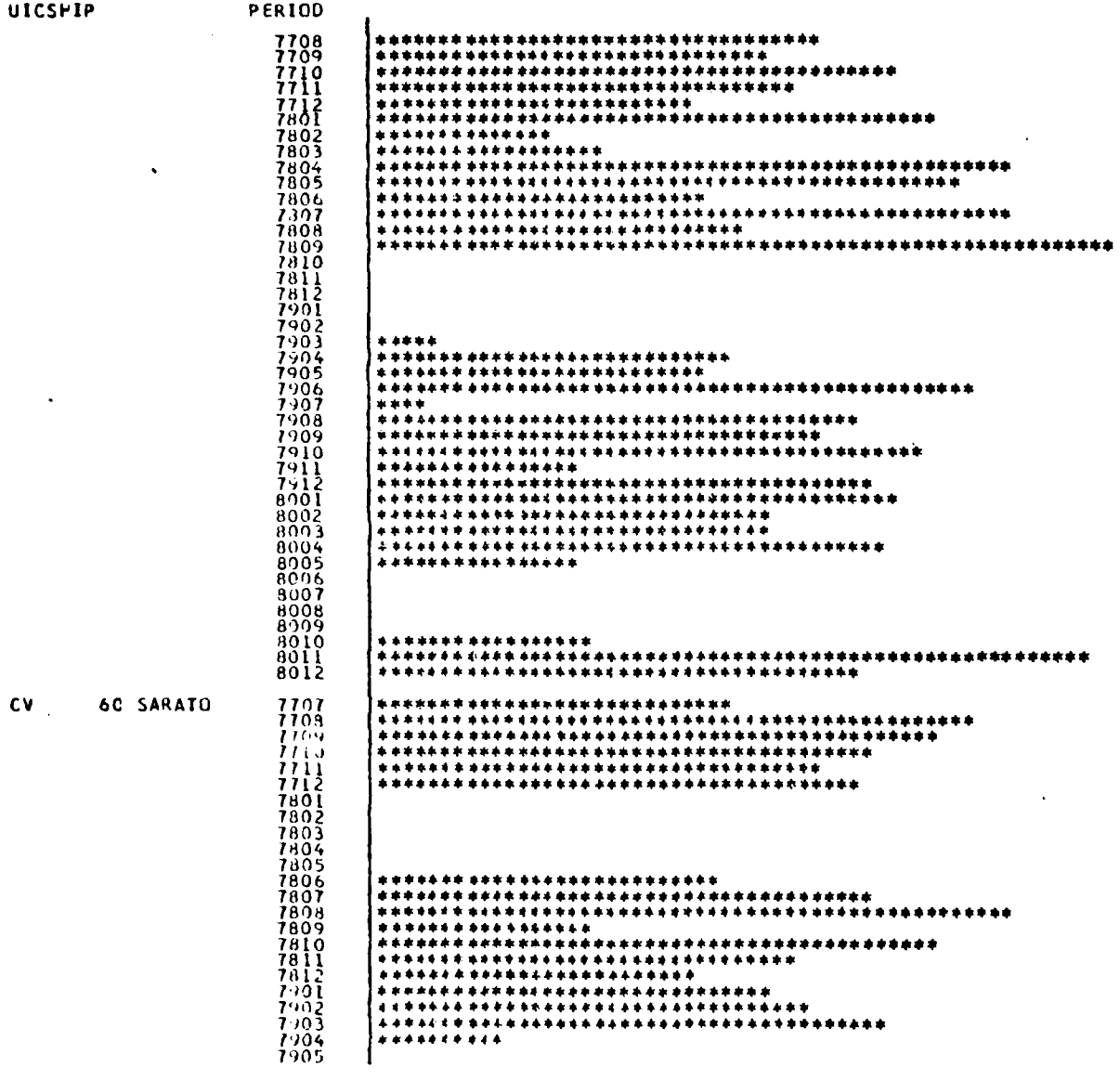
SAS PROGRAM CAHISTCV, CAHISTFF AND CAHISTLST: INDIVIDUAL SHIP ATTRITION HISTORY FOR THREE CLASSES CV (AIRCRAFT CARRIERS), FF (FAST FRIGATES) AND LST (TANK LANDING SHIP)

```
//CAHISTCV JOB (2987,0020),'C.G.CARLSON SMC1725',CLASS=B
//   EXEC SAS
//DATAFILE DD DISP=SHR,DSNAME=MSS.S2987.STF.COHRT6
//SYSIN DD *
DATA;
   INFILE DATAFILE;
   INPUT COHORT 2-3 ATTRIT 5 LMON 7-8  CCUNT 19-21
         UIC 23-27 SHIP $ 29-37  NAME $ 39-53 HOMEPORT $ 55-65
         CLASS 66-67 DATASHIP $ 68-82;
   IF COUNT GE 269;
   IF COUNT LE 278;
PROC SORT;BY CLASS;
PROC CHART;
   HBAR LMON/DISCRETE GROUP=SHIP SUMVAR=ATTRIT;

//CAHISTFF JOB (2987,0020),'C.G.CARLSON SMC1725',CLASS=B
//   EXEC SAS
//DATAFILE DD DISP=SHR,DSNAME=MSS.S2987.STF.COHRT6
//SYSIN DD *
DATA;
   INFILE DATAFILE;
   INPUT COHORT 2-3 ATTRIT 5 LMON 7-8  CCUNT 19-21
         UIC 23-27 SHIP $ 29-37  NAME $ 39-53 HOMEPORT $ 55-65
         CLASS 66-67 DATASHIP $ 68-82;
   IF COUNT GE 410;
   IF COUNT LE 468;
PROC SORT;BY CLASS;
PROC CHART;
   HBAR LMON/DISCRETE GROUP=SHIP SUMVAR=ATTRIT;

//CAHISLST JOB (2987,0020),'C.G.CARLSON SMC1725',CLASS=B
//   EXEC SAS
//DATAFILE DD DISP=SHR,DSNAME=MSS.S2987.STF.COHRT6
//SYSIN DD *
DATA;
   INFILE DATAFILE;
   INPUT COHORT 2-3 ATTRIT 5 LMON 7-8  CCUNT 19-21
         UIC 23-27 SHIP $ 29-37  NAME $ 39-53 HOMEPORT $ 55-65
         CLASS 66-67 DATASHIP $ 68-82;
   IF COUNT GE 511;
   IF COUNT LE 529;
PROC SORT;BY CLASS;
PROC CHART;
   HBAR LMON/DISCRETE GROUP=SHIP SUMVAR=ATTRIT;
```

APPENDIX GG

SAMPLE OUTPUT OF CAUWCLAS: INDIVIDUAL SHIP STEAMING HOURS UNDERWAY HISTORY FOR THREE CLASSES OF SHIPS

BAR CHART OF SUMS



BAR CHART OF SUMS

UICSHIP	PERIOD	
	8002	
	8003	
	8004	**********
	8005	****
	8006	
	8007	
	8008	**********
	8009	**********
	8010	**********
	8011	
	8012	
FF 1058 MEYERK	7707	**********
	7708	**********
	7709	*
	7710	**********
	7711	**********
	7712	*
	7801	********
	7802	
	7803	
	7804	
	7805	
	7806	
	7807	
	7808	
	7809	
	7810	
	7811	
	7812	
	7901	
	7902	****
	7903	**********
	7904	**********
	7905	**********
	7906	**********
	7907	**********
	7908	**********
	7909	
	7910	**********
	7911	********
	7912	**********
	8001	**********
	8002	**********
	8003	**********
	8004	**********
	8005	**********
	8006	**********
	8007	**********
	8008	**********
	8009	**********
	8010	**********
	8011	
	8012	
FF 1059 W S SI	7707	**********
	7708	**********
	7709	**********
	7710	**********
	7711	**********
	7712	**********
	7801	
	7802	
	7803	**********
	7804	**********

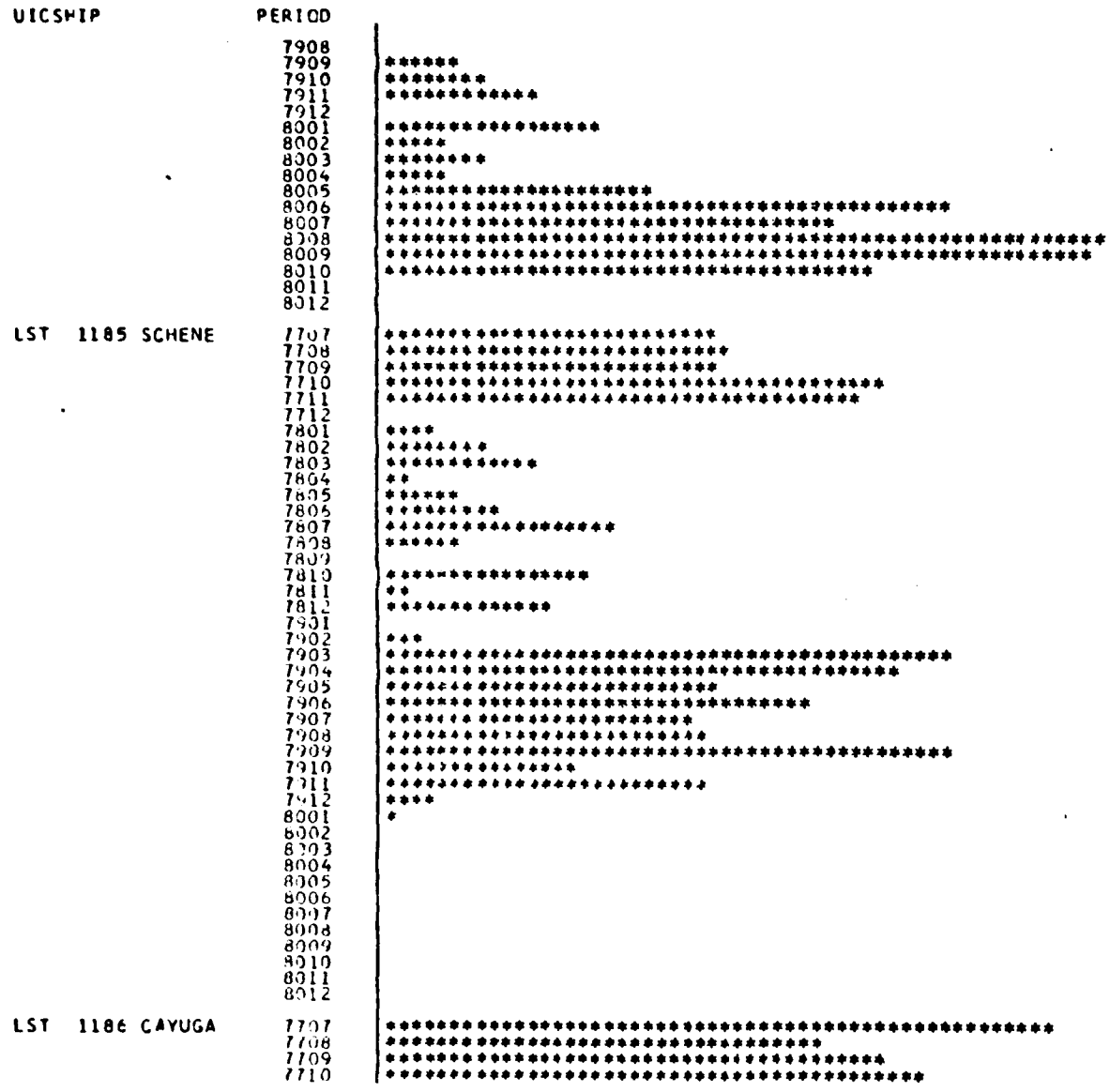
BAR CHART OF SUMS

UICSHIP	PERIOD	
	7805	***
	7806	**********
	7807	**********
	7808	**********
	7809	**********
	7810	**********
	7811	**********
	7812	**********
	7901	**********
	7902	**********
	7903	**********
	7904	**
	7905	*******
	7906	
	7907	
	7908	
	7909	
	7910	
	7911	
	7912	
	8001	
	8002	
	8003	*****
	8004	**********
	8005	**********
	8006	**********
	8007	**********
	8008	*
	8009	**
	8010	**********
	8011	**********
	8012	**********
FF 10EC LANG	7707	*********
	7708	
	7709	
	7710	
	7711	
	7712	
	7801	
	7802	
	7803	
	7804	
	7805	
	7806	*******
	7807	**********
	7808	**********
	7809	*******
	7810	**********
	7811	**********
	7812	*******
	7901	**********
	7902	**********
	7903	**********
	7904	*****
	7905	**********
	7906	**********
	7907	**********
	7908	**********
	7909	**********
	7910	**********
	7911	**********
	7912	**********
	8001	**********
	8002	*

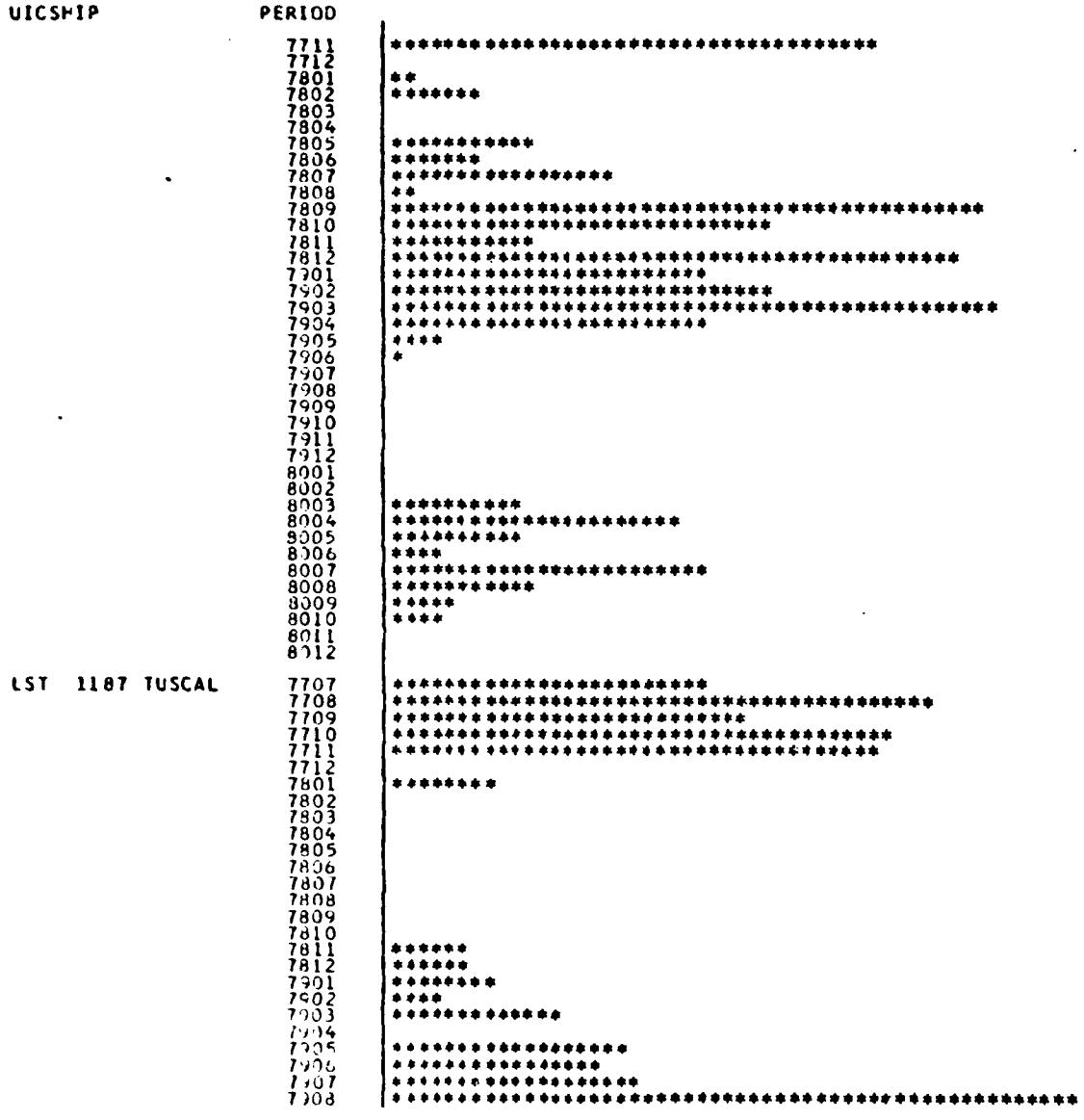
BAR CHART OF SUMS

UICSHIP	PERIOD	
	7809	
	7810	********
	7811	**********
	7812	**********
	7901	**********
	7902	*
	7903	**********
	7904	**********
	7905	**********
	7906	**********
	7907	**********
	7908	**********
	7909	**********
	7910	********
	7911	*********
	7912	**********
	8001	
	8002	*
	8003	**********
	8004	**********
	8005	*******
	8006	**********
	8007	**********
	8008	**********
	8009	**********
	8010	**********
	8011	
	8012	
FF 1072 BLAKEL	7707	**********
	7708	*
	7709	**********
	7710	**********
	7711	
	7712	*
	7801	**********
	7802	**********
	7803	***
	7804	**********
	7805	**********
	7806	**********
	7807	**********
	7808	**********
	7809	**********
	7810	**********
	7811	
	7812	**********
	7901	**********
	7902	**********
	7903	**********
	7904	**********
	7905	*****
	7906	
	7907	
	7908	
	7909	
	7910	
	7911	
	7912	
	8001	
	8002	
	8003	
	8004	**********
	8005	**********
	8006	**********

BAR CHART OF SUMS



BAR CHART OF SUMS

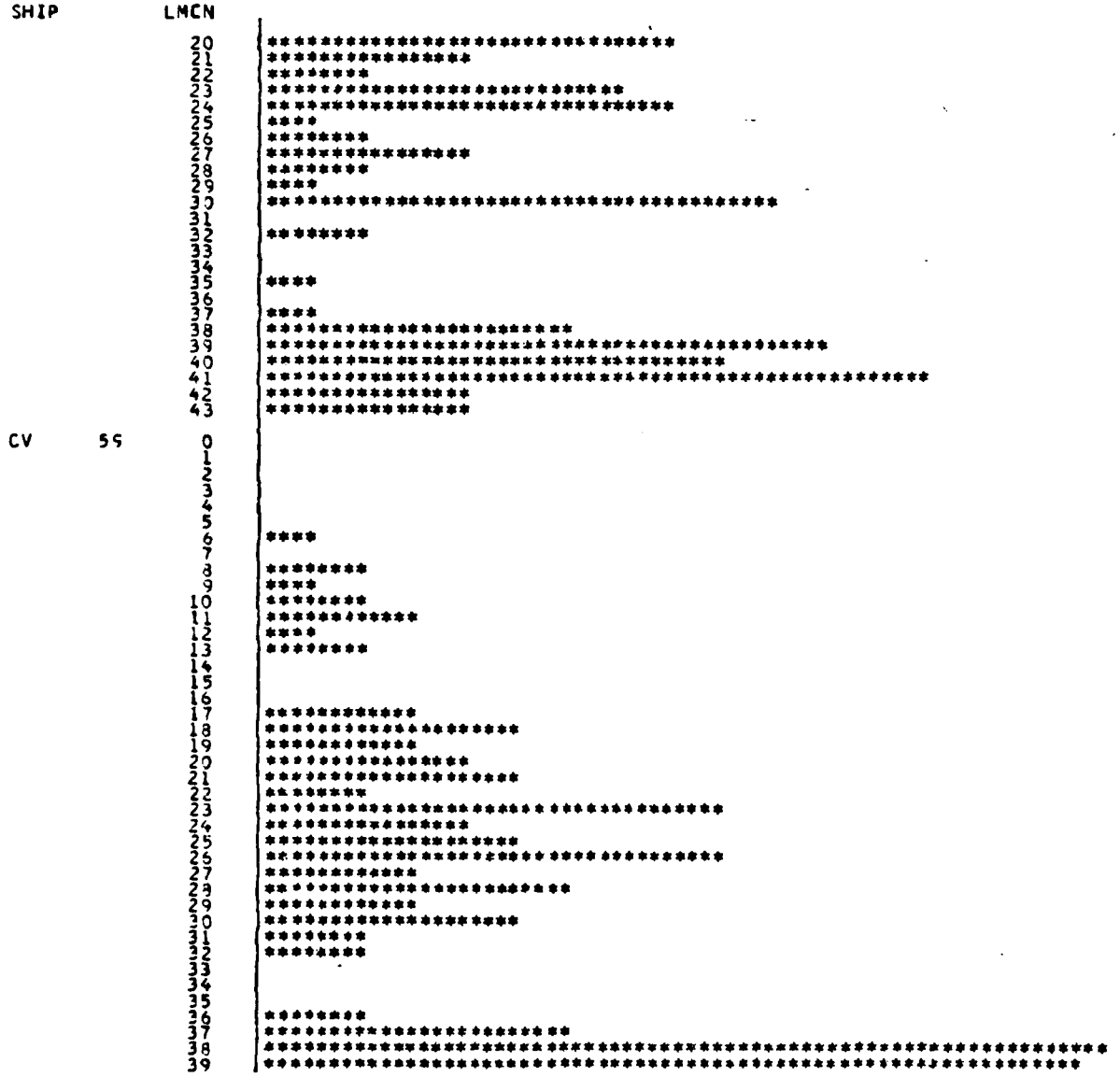


APPENDIX HH
SAMPLE OUTPUT OF CAHISTCV, CAHISTFF, AND CAHISLST:
INDIVIDUAL SHIP ATTRITION HISTORY FOR THREE CLASSES

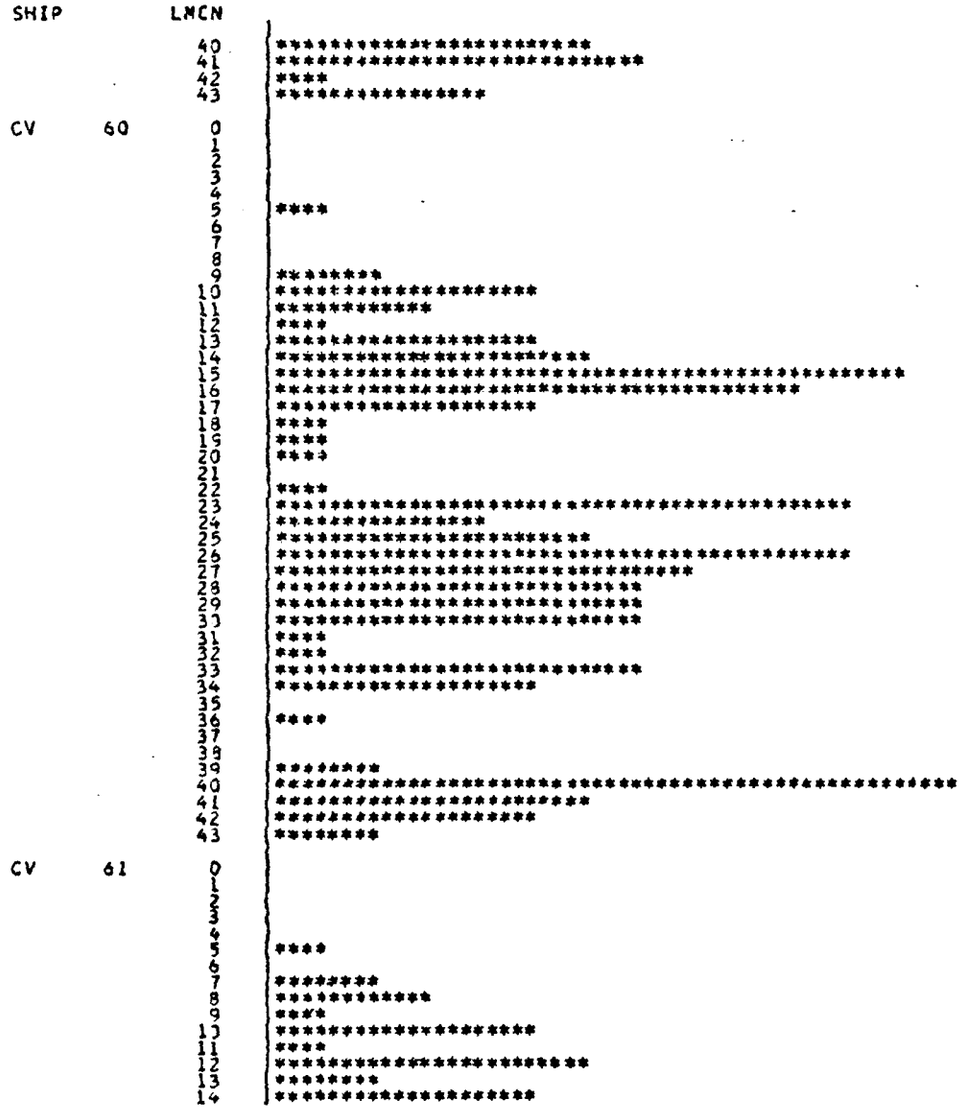
BAR CHART OF SUMS

SHIP		LMCN	
CV	41	0	
		1	
		2	
		3	
		4	
		5	
		6	
		7	
		8	
		9	
		10	
		11	
		12	
		13	
		14	****
		15	**********
		16	
		17	
		18	****
		19	
		20	
		21	
		22	****
		23	**********
		24	
		25	****
		26	********
		27	
		28	****
		29	****
		30	
		31	
		32	
		33	
		34	
		35	********
		36	
		37	
		38	**********
		39	
		40	
		41	
		42	
		43	
CV	43	0	
		1	
		2	
		3	
		4	
		5	
		6	
		7	********
		8	**********
		9	****
		10	****
		11	
		12	
		13	**********
		14	********
		15	**********
		16	**********
		17	**********
		18	********
		19	**********

BAR CHART OF SUMS

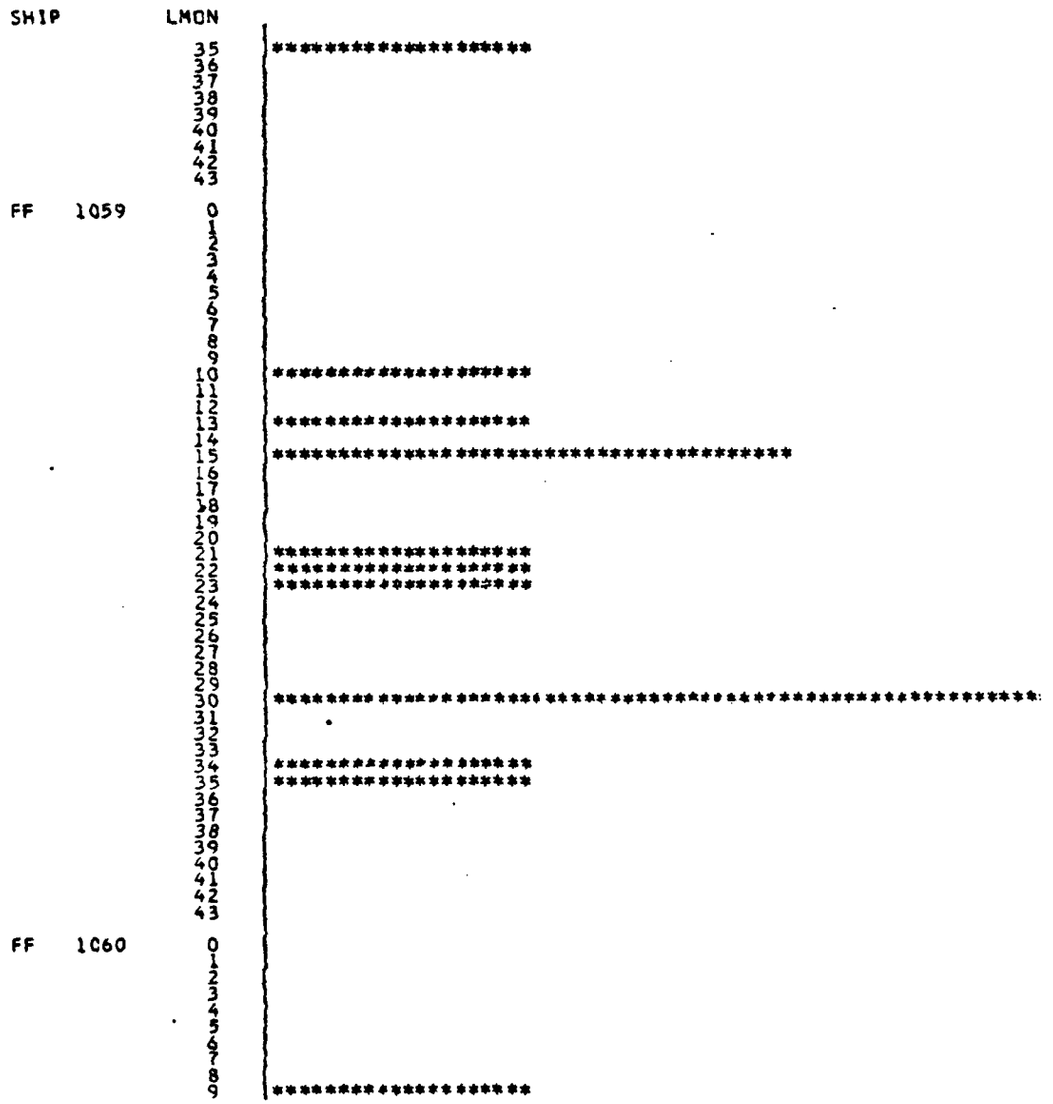


. BAR CHART OF SUMS



STATISTICAL ANALYSIS SYS

BAR CHART OF SUMS



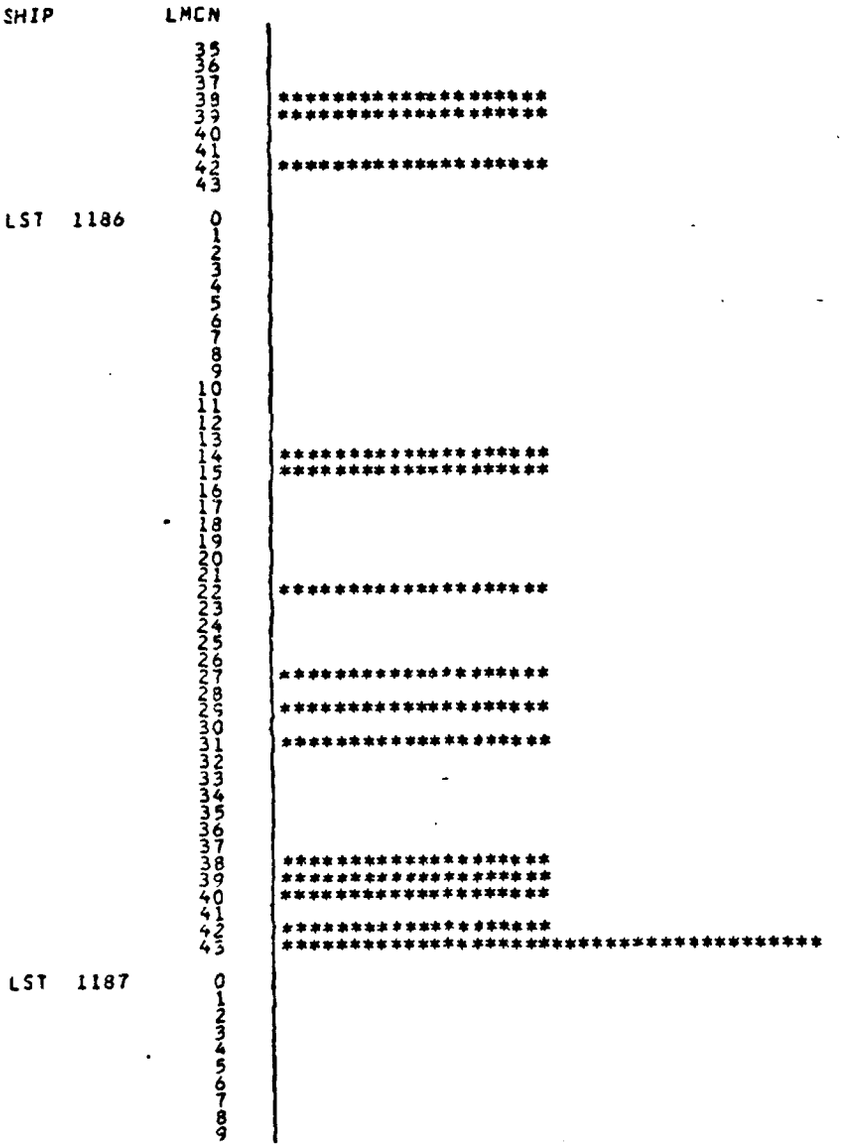
BAR CHART OF SUMS

```
SHIP        LMON
             35 |****************************************
             36 |
             37 |********************
             38 |********************
             39 |
             40 |
             41 |
             42 |
             43 |
FF   1072     0 |
              1 |
              2 |
              3 |
              4 |
              5 |
              6 |
              7 |
              8 |********************
              9 |********************
             10 |********************
             11 |
             12 |
             13 |
             14 |
             15 |
             16 |
             17 |
             18 |
             19 |****************************************
             20 |
             21 |********************
             22 |********************
             23 |********************
             24 |********************
             25 |********************
             26 |********************
             27 |
             28 |
             29 |********************
             30 |********************
             31 |
             32 |
             33 |
             34 |
             35 |
             36 |
             37 |********************
             38 |********************
             39 |
             40 |********************
             41 |********************
             42 |
             43 |
FF   1073     0 |
              1 |
              2 |
              3 |
              4 |
              5 |
              6 |
              7 |
              8 |
              9 |
```

BAR CHART OF SUMS

```
SHIP          LMON
                15 |
                16 |
                17 |
                18 |
                19 |**********
                20 |
                21 |
                22 |
                23 |****************************************
                24 |
                25 |
                26 |****************************************
                27 |
                28 |****************************************
                29 |****************************************
                30 |
                31 |
                32 |
                33 |
                34 |
                35 |
                36 |**********
                37 |
                38 |
                39 |
                40 |
                41 |
                42 |
                43 |**********
LST  1185        0 |
                 1 |
                 2 |
                 3 |
                 4 |
                 5 |
                 6 |**********
                 7 |
                 8 |
                 9 |
                10 |
                11 |
                12 |
                13 |**********
                14 |**********
                15 |
                16 |
                17 |
                18 |
                19 |**********
                20 |
                21 |
                22 |
                23 |
                24 |**********
                25 |
                26 |
                27 |
                28 |
                29 |**********
                30 |
                31 |
                32 |
                33 |
                34 |**********
```

BAR CHART OF SUMS



AD-A107 510 NAVAL POSTGRADUATE SCHOOL MONTEREY CA F/G 5/9
A DESCRIPTIVE ANALYSIS OF FIRST TERM ATTRITION FROM U.S. NAVAL --ETC(U)
SEP 81 C G CARLSON

UNCLASSIFIED NL

3 OF 3
AD A
107510

END
DATE FILMED
12-81
DTIC

14:14 SUNDAY, SEPTEMBER

UICSHIP=AVT 16 LEXINGTON

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	RANGE	SUM	VARIANCE
UWHRS	163.29268293	96.04094020	0	360.00000000	360.00000000	6695.00000000	9223.86219512
UICSHIP=CV 41 MIDWAY							
UWHRS	382.80000000	197.18742874	0	744.00000000	744.00000000	15312.0000000	38882.8820513
UICSHIP=CV 43 CORAL SEA							
UWHRS	268.79411765	223.43893199	0	744.00000000	744.00000000	9139.00000000	49924.9563280
UICSHIP=CV 59 FORRESTAL							
UWHRS	257.97560976	182.47910672	0	583.00000000	583.00000000	10577.0000000	33298.6243902
UICSHIP=CV 60 SARATOGA							
UWHRS	253.97368421	175.61344017	0	497.00000000	497.00000000	9651.00000000	30840.0803698
UICSHIP=CV 61 RANGER							
UWHRS	244.21621622	178.77812679	0	586.00000000	586.00000000	9036.00000000	31961.6186186
UICSHIP=CV 62 INDEPENDENCE							
UWHRS	222.45238095	200.27617546	0	744.00000000	744.00000000	9343.00000000	40113.5464576
UICSHIP=CV 63 KITTY HAWK							
UWHRS	317.59459459	205.13633129	0	744.00000000	744.00000000	11751.0000000	42080.9144144
UICSHIP=CV 64 CONSTELLATION							
UWHRS	363.94871795	219.76446108	0	744.00000000	744.00000000	14194.0000000	48296.4183536
UICSHIP=CV 66 AMERICA							
UWHRS	207.04761905	165.37790462	0	526.00000000	526.00000000	8696.00000000	27349.8513357
UICSHIP=CV 67 JOHN F KENNEDY							
UWHRS	220.69047619	203.31166608	0	652.00000000	652.00000000	9269.00000000	41335.6335656
UICSHIP=FF 1037 BRONSTEIN							
UWHRS	231.07894737	195.92585216	0	640.00000000	640.00000000	8781.00000000	38386.9395448
UICSHIP=FF 1038 MCCLOY							
UWHRS	175.20930233	164.03550111	0	518.00000000	518.00000000	7534.00000000	26907.6456257
UICSHIP=FF 1040 GARCIA							
UWHRS	149.97619048	179.12926088	0	691.00000000	691.00000000	6299.00000000	32087.2921022
UICSHIP=FF 1041 BRADLEY							
UWHRS	175.03030303	174.25833639	0	611.00000000	611.00000000	5776.00000000	30365.9678030
UICSHIP=FF 1043 EDWARD MCDONNEL							
UWHRS	171.41463415	154.88543760	0	448.00000000	448.00000000	7028.00000000	23989.4987805
UICSHIP=FF 1044 BRUMBY							
UWHRS	193.37209302	188.06724016	0	605.00000000	605.00000000	8315.00000000	35369.2868217

UICSHIP=FF 1045 DAVIDSON

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	RANGE	SUM	VARIANCE
UWHRS	206.92500000	192.46703181	0	740.00000000	740.00000000	8277.00000000	37043.5583333
UICSHIP=FF 1047 VOGE							
UWHRS	175.23809524	211.23098090	0	704.00000000	704.00000000	7360.00000000	44618.5272938
UICSHIP=FF 1048 SAMPLE							
UWHRS	237.45454545	192.05078933	0	720.00000000	720.00000000	7836.00000000	36883.5056818
UICSHIP=FF 1049 KOELSCH							
UWHRS	192.14634146	198.98939180	0	644.00000000	644.00000000	7878.00000000	39596.7780488
UICSHIP=FF 1050 ALBERT DAVID							
UWHRS	229.86842105	185.75327592	0	607.00000000	607.00000000	8735.00000000	34504.2795164
UICSHIP=FF 1051 OCALLAHAN							
UWHRS	219.62500000	169.08603295	0	574.00000000	574.00000000	8785.00000000	28590.0865385
UICSHIP=FF 1052 KNOX							
UWHRS	272.48717949	183.95077600	0	744.00000000	744.00000000	10627.0000000	33837.8879892
UICSHIP=FF 1053 ROARK							
UWHRS	232.51724138	154.99622592	0	537.00000000	537.00000000	6743.00000000	24023.8300493
UICSHIP=FF 1054 GRAY							
UWHRS	201.66666667	146.19432824	0	527.00000000	527.00000000	6050.00000000	21372.7816092
UICSHIP=FF 1055 HEPBURN							
UWHRS	188.75000000	166.00995619	0	600.00000000	600.00000000	5285.00000000	27559.3055556
UICSHIP=FF 1056 CONNOLE							
UWHRS	183.33333333	176.62329580	0	520.00000000	520.00000000	7700.00000000	31195.7886179
UICSHIP=FF 1057 RATHBURNE							
UWHRS	168.12121212	165.34599284	0	646.00000000	646.00000000	5548.00000000	27339.2973485
UICSHIP=FF 1058 MEYERKORD							
UWHRS	191.03448276	143.17259384	0	513.00000000	513.00000000	5540.00000000	20498.3916256
UICSHIP=FF 1059 W S SIMS							
UWHRS	195.00000000	185.69291086	0	600.00000000	600.00000000	8385.00000000	34481.8571429
UICSHIP=FF 1060 LANG							
UWHRS	169.47222222	167.82362955	0	655.00000000	655.00000000	6101.00000000	28164.7706349
UICSHIP=FF 1061 PATTERSON							
UWHRS	214.80952381	182.77151378	0	596.00000000	596.00000000	9022.00000000	33405.4262485
UICSHIP=FF 1062 WHIPPLE							
UWHRS	181.58333333	152.65879321	0	464.00000000	464.00000000	6537.00000000	23304.7071429

UICSHIP=FF 1063 REASONER

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	RANGE	SUM	VARIANCE
UWHRS	220.60000000	173.14227142	0	744.00000000	744.00000000	8824.00000000	29978.2461538

UICSHIP=FF 1064 LOCKWOOD

UWHRS	260.51515152	182.33264951	0	620.00000000	620.00000000	8597.00000000	33245.1950758

UICSHIP=FF 1065 STEIN

UWHRS	236.75000000	204.95956047	0	743.00000000	743.00000000	8523.00000000	42008.4214286

UICSHIP=FF 1066 MARVIN SHIELDS

UWHRS	207.25806452	166.75430384	0	537.00000000	537.00000000	6425.00000000	27806.9978495

UICSHIP=FF 1067 FRANCIS HAMMOND

UWHRS	299.62857143	212.79306238	0	720.00000000	720.00000000	10487.0000000	45280.8873950

UICSHIP=FF 1068 VREELAND

UWHRS	227.25581395	184.85091715	0	657.00000000	657.00000000	9772.00000000	34169.8615725

UICSHIP=FF 1069 BAGLEY

UWHRS	250.18181818	212.44064679	0	688.00000000	688.00000000	8256.00000000	45131.0284091

UICSHIP=FF 1070 DOWNES

UWHRS	186.97435897	187.05733531	0	660.00000000	660.00000000	7292.00000000	34990.4466937

UICSHIP=FF 1071 BADGER

UWHRS	228.65000000	171.90494541	0	645.00000000	645.00000000	9146.00000000	29551.3102564

UICSHIP=FF 1072 BLAKELY

UWHRS	172.26829268	168.63377841	0	576.00000000	576.00000000	7063.00000000	28437.3512195

UICSHIP=FF 1073 ROBERT E PEARY

UWHRS	203.47222222	177.13602297	0	683.00000000	683.00000000	7325.00000000	31377.1706349

UICSHIP=FF 1074 HAROLD E HOLT

UWHRS	245.45000000	191.95872286	0	743.00000000	743.00000000	9818.00000000	36846.1512821

UICSHIP=FF 1075 TRIPPE

UWHRS	185.62790698	191.78497673	0	548.00000000	548.00000000	7982.00000000	36781.4772979

UICSHIP=FF 1076 FANNING

UWHRS	175.07500000	206.66725238	0	744.00000000	744.00000000	7003.00000000	42711.3532051

UICSHIP=FF 1077 DUELLET

UWHRS	217.06250000	161.46165779	0	505.00000000	505.00000000	6946.00000000	26069.0669355

UICSHIP=FF 1078 JOSEPH HEWES

UWHRS	239.09523810	154.16601908	0	625.00000000	625.00000000	10042.0000000	23767.1614402

UICSHIP=FF 1079 BOWEN

UWHRS	219.40476190	195.85921518	0	594.00000000	594.00000000	9215.00000000	38360.8321719

UICSHIP=FF 1080 PAUL

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	RANGE	SUM	VARIANCE
UWHRS	207.24390244	171.83157168	0	596.00000000	596.00000000	8497.00000000	29526.0890244
UICSHIP=FF 1081 AYLWIN							
UWHRS	209.58139535	211.27191152	0	672.00000000	672.00000000	9012.00000000	44635.8205980
UICSHIP=FF 1082 ELMER MONTGOMER							
UWHRS	188.47619048	166.58525073	0	512.00000000	512.00000000	7916.00000000	27750.6457607
UICSHIP=FF 1083 COOK							
UWHRS	180.00000000	186.81197576	0	655.00000000	655.00000000	5220.00000000	34898.7142857
UICSHIP=FF 1084 MCCANDLESS							
UWHRS	173.53658537	173.87353128	0	549.00000000	549.00000000	7115.00000000	30232.0048780
UICSHIP=FF 1085 DONALD B BEARY							
UWHRS	171.73809524	176.87325757	0	655.00000000	655.00000000	7213.00000000	31284.1492451
UICSHIP=FF 1086 BREWTON							
UWHRS	196.19444444	170.65182925	0	648.00000000	648.00000000	7063.00000000	29122.0468254
UICSHIP=FF 1087 KIRK							
UWHRS	275.90000000	169.87624455	0	639.00000000	639.00000000	11036.0000000	28857.9384615
UICSHIP=FF 1088 BARBEY							
UWHRS	204.78125000	181.32037844	0	720.00000000	720.00000000	6553.00000000	32877.0796371
UICSHIP=FF 1089 JESSE L BROWN							
UWHRS	174.63414634	202.07928594	0	744.00000000	744.00000000	7160.00000000	40836.0378049
UICSHIP=FF 1090 AINSWORTH							
UWHRS	210.02380952	216.23536049	0	725.00000000	725.00000000	8821.00000000	46757.7311266
UICSHIP=FF 1091 MILLER							
UWHRS	185.02325581	207.89987155	0	707.00000000	707.00000000	7956.00000000	43222.3565891
UICSHIP=FF 1092 THOMAS C HART							
UWHRS	195.50000000	186.28358267	0	637.00000000	637.00000000	8211.00000000	34701.5731707
UICSHIP=FF 1093 CAPODANNO							
UWHRS	175.87804878	178.55954121	0	561.00000000	561.00000000	7211.00000000	31883.5097561
UICSHIP=FF 1094 PHARRIS							
UWHRS	186.00000000	160.76493975	0	471.00000000	471.00000000	7812.00000000	25845.3658537
UICSHIP=FF 1095 TRUETT							
UWHRS	132.17073171	166.67811831	0	634.00000000	634.00000000	5419.00000000	27781.5951220
UICSHIP=FF 1096 VALDEZ							
UWHRS	163.69047619	171.44173270	0	573.00000000	573.00000000	6875.00000000	29392.2677120

UICSHIP=FF 1097 MOINESTER

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	RANGE	SUM	VARIANCE
UWHRS	174.30952381	170.76377752	0	462.00000000	462.00000000	7321.00000000	29160.2677120

UICSHIP=FF 1098 GLOVER

UWHRS	203.97500000	195.00446905	0	560.00000000	560.00000000	8159.00000000	38026.7429487

UICSHIP=LST 1179 NEWPORT

UWHRS	186.64285714	192.21543064	0	648.00000000	648.00000000	7839.00000000	36946.7717770

UICSHIP=LST 1180 MANITOWOC

UWHRS	126.09523810	139.01830192	0	444.00000000	444.00000000	5296.00000000	19326.3882695

UICSHIP=LST 1181 SUMTER

UWHRS	163.42500000	173.95753792	0	690.00000000	690.00000000	6537.00000000	30261.2250000

UICSHIP=LST 1182 FRESNO

UWHRS	165.33333333	166.04336783	0	536.00000000	536.00000000	5952.00000000	27570.4000000

UICSHIP=LST 1183 PEORIA

UWHRS	162.28571429	127.89459119	8.00000000	439.00000000	431.00000000	4544.00000000	16357.3264550

UICSHIP=LST 1184 FREDERICK

UWHRS	202.82857143	171.93509133	0	557.00000000	557.00000000	7099.00000000	29561.6756303

UICSHIP=LST 1185 SCHENECTADY

UWHRS	148.41666667	146.40128317	0	444.00000000	444.00000000	5343.00000000	21433.3357143

UICSHIP=LST 1186 CAYUGA

UWHRS	170.38571429	165.56292058	0	516.00000000	516.00000000	5953.00000000	27411.0806723

UICSHIP=LST 1187 TUSCALOOSA

UWHRS	168.67647059	146.01613041	0	516.00000000	516.00000000	5735.00000000	21329.7103387

UICSHIP=LST 1188 SAGINAW

UWHRS	223.00000000	160.21267116	0	544.00000000	544.00000000	9143.00000000	25668.1000000

UICSHIP=LST 1189 SAN BERNARDINO

UWHRS	205.92500000	202.17451049	0	720.00000000	720.00000000	8237.00000000	40874.5326923

UICSHIP=LST 1190 BOULDER

UWHRS	187.88095238	147.23056456	0	563.00000000	563.00000000	7891.00000000	21676.8391405

UICSHIP=LST 1191 RACINE

UWHRS	184.27500000	167.32709982	0	547.00000000	547.00000000	7371.00000000	27998.3583333

UICSHIP=LST 1192 SPARTANBURG

UWHRS	191.56097561	152.14319715	0	552.00000000	552.00000000	7854.00000000	23147.5524390

UICSHIP=LST 1193 FAIRFAX COUNTY

UWHRS	144.17142857	127.43824767	0	409.00000000	409.00000000	6051.00000000	16240.5069686

UICSHIP=LST 1194 LA MOURE COUNTY

VARIABLE	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	RANGE	SUM	VARIANCE
UWHRS	198.54761905	181.17195745	0	706.00000000	706.00000000	8339.00000000	32823.2781649
UICSHIP=LST 1195 BARBOUR COUNTY							
UWHRS	189.47500000	164.52339675	0	587.00000000	587.00000000	7579.00000000	27067.9480769
UICSHIP=LST 1196 HARLAN COUNTY							
UWHRS	179.69047619	189.30418006	0	720.00000000	720.00000000	7547.00000000	35836.0725904
UICSHIP=LST 1197 BARNSTABLE CTY							
UWHRS	177.42857143	170.73458833	0	495.00000000	495.00000000	7452.00000000	29150.2996516
UICSHIP=LST 1198 BRISTOL COUNTY							
UWHRS	193.05000000	147.51896010	0	520.00000000	520.00000000	7722.00000000	21761.8435897

APPENDIX JJ

QUARTERLY FORCE EMPLOYMENT SCHEDULE FILE DESCRIPTION

Variables*	Column	Field Width
UIC	1	6
BDATE	7	6
EDATE	13	6
EDUR	19	2
ETYPE	21	1
ETERM	22	10
ECAT	32	2
ESUF	34	1
ELOC	35	18
ECC	53	2
EGEO	55	4
EOAC	59	2
EUNIT	61	6
QTR	67	1
FILLER	68	13

*Variables are explained in NWP10 (Naval Warfare Publication) entitled Operational Reports.

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